Partner with a Recognized Leader in Quality

At Lantronix, we believe that our quality differentiates us as much from our competition as our innovative products.

Reflecting our unwavering commitment to quality, reliability and environmentally sound manufacturing processes, we are ISO 9001:2000 and ISO 14001 registered. These key certifications enable us to strengthen our market position through quality processes and environmental management systems and ensure that we meet or exceed government standards. When you choose Lantronix, you get the peace of mind that comes from partnering with a highly experienced technical innovator with a commitment to the highest quality, environmental and business principles.

For information on our "green roadmap" and how we are meeting RoHS and WEEE environmental directives, please visit our web site.

Unmatched Technical Support

At Lantronix, we offer a level of worldwide customer and technical support unmatched by any in the industry. You won't find a more experienced, knowledgeable or courteous staff anywhere.

Lantronix customer support offers:

- Free phone support with minimal hold time:
  6 a.m. – 5:30 p.m. PST, Monday through Friday.
  (800) 422-7044
- Virtual on-site support via Live Assist.
- Online chat.
- Web-based video configuration tutorials.
- Online knowledge base, FAQs and much more.

Just give us a call or visit www.lantronix.com and find out why we're so proud of our support team and the services they provide.

Corporate Headquarters

15353 Barranca Parkway
Irvine, CA 92618 USA
Tel: 800.422.7055
Fax: 949.450.7232
sales@lantronix.com
ftp.lantronix.com

Technical Support
Hours: 6:00 am–5:00 pm PST
Mon-Fri (excluding holidays)
Tel: 800.422.7044 (US only)
Fax: 949.450.7226
www.lantronix.com/support

Premier Partner Program
partners@lantronix.com

Latin America & Caribbean
+1.949.453.3990
la_sales@lantronix.com

Japan
2-4-19-105
Sekiguchi, Bunkyo-ku
Tokyo, Japan 112-0014
Tel: +81.3.3946.6031
Fax: +81.3.3946.6031
japan_sales@lantronix.com

Asia/Pacific
Unit 3007
Entertainment Building
30 Queen's Road Central
Hong Kong
Tel: +852.2168.0633
Fax: +852.2168.0601
asiapacific_sales@lantronix.com

European Headquarters
2 Rue Helene Boucher
78280 Guyancourt
France
Tel: +33.1.39.30.41.74
Fax: +33.1.39.30.41.73
europesouth@lantronix.com
eu_sales@lantronix.com

Germany
+49 (0) 8092.85.03.65
europecentral@lantronix.com

United Kingdom
+44 (0) 118.924.2511
europenorth@lantronix.com

The Netherlands
+31.76.542.6977
europenorth@lantronix.com

Europe, Middle East, Africa Technical Support
+33 (0) 1.39.30.41.72
eu_techsupp@lantronix.com
Germany
+49 (0) 180.500.13.53

Pre-Sales Support
IT Management & External Device Networking Products
+49 (0) 8092.85.03.65
treece@lantronix.com

Embedded & OEM Products
+49 (0) 881.63.85.65
phierholzer@lantronix.com

Sales
North and East Europe, South Africa, Austria
+31.76.542.69.77
martinp@lantronix.com

South Europe, Africa, Middle East, Switzerland, Germany
+33.1.39.30.4174
reneg@lantronix.com

www.lantronix.com

©2006 Lantronix, Inc. Lantronix, WiBox, SecureBox and XPort are registered trademarks, and "Network Anything. Network Everything," WiPort, XPress-DR, XPress-DR+, SwitchPort+, Com Port Redirector, Evolution OS, DSTni and Secure Com Port Redirector are trademarks of Lantronix, Inc. All other trademarks are the property of their respective owners. Specifications subject to change without notice. All rights reserved. 910-488 10/06 PDF

Industrial Device Networking

Connect, Communicate and Control Industrial Equipment over the Net

In The Industrial Environment,

conditions can be harsh. Whether it's on the factory floor, oil platform, locomotive, weather station, or a warehouse – you have to depend on your equipment. And in the quest to stay competitive through greater efficiency, productivity and quality control you also need the ability to remotely access, manage and control that equipment.

That's where Lantronix comes in.

With a Lantronix industrial device server, you can quickly and reliably connect virtually any piece of factory equipment to a network or the Internet to interactively access, manage, control, evaluate and utilize data from the equipment. This powerful, yet amazingly simple-to-implement technology provides the ability to perform real-time remote diagnostics and repair, automate data capture and be automatically and immediately notified of a problem. Imagine the ability to control, monitor and troubleshoot remote industrial equipment from virtually anywhere over an Internet connection! In business, this power translates to improved efficiency, reduced operating and maintenance costs and maximized uptime.

Leading Innovation and Expertise in Industrial Device Networking

With nearly 20 years of networking innovation, Lantronix is a pioneer in Industrial Device Networking and a clear leader in Ethernet and 802.11 wireless technology.

With millions of devices networked worldwide across widely diverse markets, Lantronix has provided more network-enablement solutions than any vendor in the industry. And Lantronix is the only company offering a total device networking solution that includes Enablement and Management & Control solutions. Network "enablement" makes it possible to connect previously non-networked equipment to the Net so it can be monitored and managed remotely. The convergence of enterprise and 'edge' networks, "management & control" provides companies the power of a single point of access to manage everything from industrial equipment to enterprise IT and data center assets from a central location.

Our continued commitment to Industrial Device Networking and customers like Texas Instruments, Schneider, Rockwell, Bosch, Honeywell, GE Industrial and Siemens Building Technology is demonstrated in the strength of our expert technical support, highly-trained field application engineers and unparalleled customization services.

Full Range of Industrial Networking Solutions

Connecting industrial equipment to a network can often be cumbersome, complex and costly. Without device server technology it can be impossible in many situations to connect new or existing machinery to the networks without undergoing extensive reconfiguration. Lantronix industrial-strength device servers offer the ability to connect enterprise systems to factory floor devices without disturbing existing control networks or requiring dedicated wiring. From Ethernet to wireless, from external products for existing equipment to embedded modules for OEMs – Lantronix has a solution for you.

Industrial-Strength Products for Harsh Environments

The industrial environment is rough on equipment. Our robust line of product specifically designed for industrial networking needs includes options for:

- Ethernet 10Base-T or 100Base-TX, fiber or wireless.
- Flexible serial support – RS-232, RS-422, RS-485.
- Modbus protocol support (Modbus ASCII/RTU, Modbus TCP).
- DF1 Multi-Master protocol support.
- Wide industrial-grade temperature ranges.
- Isolated serial and Ethernet ports.
- Ruggedized casings.
- DIN rail mounting.
- Protection against shock and vibration.
- ESD and EMI protection.
- FM approval for hazardous locations Class 1, Div 2.
- Broad 9-30 VDC through 9-24 VAC input power range to accommodate varying industrial requirements.
- Convenient terminal block connections for communications and power.

The Advantages of Lantronix Device Server Technology

Whether you're looking to add existing equipment to the network, or you're an OEM tasked with designing network functionality into the products you build, there are many benefits of the Lantronix approach to network-enablement for the industrial marketplace.

Ease of Setup and Use

Lantronix device servers are easy to setup and configure. They can be set up locally through its serial port, or remotely using Telnet or a web browser. The included DeviceInstaller™ Windows-based configuration software simplifies setup and provides an easy way to:

- Assign IP & other network specific addresses.
- Load custom web pages.
- Enable web-based configuration of the device server.
- Ping or query the attached device(s) over the network.
- View specific device data files.
- Upgrade firmware.
- Simplify process of installing industrial protocols.

The Lantronix Approach to Networking

Extending Serial Communications Across the Globe

Our approach to network-enabling devices is transparent to your attached equipment and software so you won't need to change the way you work. Using a method called serial tunneling, Lantronix device servers encapsulate serial data into packets and transport it over Ethernet. Serial tunneling can be done in two ways:

- Using Lantronix supplied Com Port Redirector™ software, Windows® device applications not designed for network communications are re-directed to communicate to devices connected to the attached Lantronix device server.
- Connecting two device servers configured to automatically talk to each other over the network creates virtual serial connections that can extend serial communications across a facility or around the world.

INDUSTRIAL DEVICE NETWORKING LANTRONIX®

Built-in Web Server

Lantronix device servers include a built-in web server. This powerful feature enables users to access and configure the device server from a standard web browser. Web pages enabling the device server to be customized for unique applications can be built using Lantronix development tools. On-board Flash memory provides room for future system software upgrades and maintenance-free, nonvolatile web page storage.

Modem Replacement

In modem emulation mode, Lantronix device servers are used to replace dialup modems, saving the expense of a dedicated line and increasing security and reliability. The unit accepts modem AT commands on the serial port. It then establishes a network connection to the end device, leveraging network connections and bandwidth to replace dedicated modems and phone lines.

TABLE OF CONTENTS

External Industrial Device Servers 1-12

Embedded Industrial Device Servers 13-22

External Commercial Device Servers 23-32

Bulletproof Security for Industrial Device Networking

With the proliferation of information in today's electronic world, businesses are more concerned than ever about protecting data from unwanted intrusion as it is transferred over a network or the Internet. Nobody does security for networking equipment better than Lantronix.

With NIST-certified implementation of 256-bit Advanced Encryption Standards (AES; Rijndael) encryption, the data sent to and from the device and the network is completely protected. The clear leader in developing AES-compliant products, Lantronix introduced the first device servers with a NIST-certified implementation of AES as specified by the FIPS-197 standard.

Lantronix also offers Secure Com Port Redirector™ software for true end-to-end security. This unique and easy-to-manage product extends the functionality of COM port-based Windows applications. Using standard TCP/IP protocols and advanced encryption algorithms, SCPR maps "virtual COM Ports" to Lantronix device servers and encrypts the data at both ends of the communication. This enables COM-based software applications to communicate securely over a network or the Internet to remote serial devices. Those devices can then be managed from virtually anywhere without the threat of compromising data security. Sensitive information can be transmitted to and from remote equipment over the network or the Internet with the confidence of the highest level of security.

Industrial Device Networking

External Device Servers

XPress-DR+ Industrial Device Server

- Cascade multiple devices from a single network connection
- Connects enterprise systems to non-networked factory floor devices
- Enables remote firmware upgrades, saving time and money
- Supports industrial protocols
- Maximizes flexibility with an internal 2-Port 10Base-T/100Base-TX Ethernet switch
- 15KV serial ESD protection and 2.5KV Ethernet isolation
- Wide -40° to 70°C operational temperature range
- RoHS compliant

RoHS WEEE COMPLIANT

Network All Your Industrial Equipment – Quickly and Easily!

For demanding factory applications, Lantronix introduces the XPress-DR+™ industrial device server. The XPress-DR+ enables users to remotely configure, monitor and control PLCs, drives, motion controllers, power equipment, barcode scanners and other serial devices from anywhere over the Net.

A versatile, powerful tool for remote management of automation and assembly/packaging equipment at manufacturing sites, automated distribution centers, refinery plants – or any industrial setting – it provides complete access and control of virtually any type of equipment with a serial port!

Extending Network Connectivity with SwitchPort+

Supporting two serial ports and two 10/100 Ethernet ports, the XPress-DR+ features patent-pending SwitchPort+™ technology which enables multiple industrial serial devices to be daisy chained (cascaded) from a single network backbone connection. SwitchPort+ combines Lantronix advanced device server technology with Ethernet switching technology to provide a robust and reliable method for networking equipment. Saves time and money by avoiding unnecessary cable runs and eliminates serial cable distance limitations.

Standards Based Communications

Using an open Ethernet architecture as a standard for device communication provides the flexibility to communicate to virtually any type of industrial equipment. Additionally it enables new equipment to be quickly and easily incorporated into existing network system designs.

When used in conjunction with an OPC server, most Windows® based HMI, SCADA and PC-based control applications have full access to information in the connected device.

Thrives in the Industrial Environment

The XPress-DR+ meets the demanding, complex industrial environment head on. Packaged in a rugged DIN-rail mount case, it's equipped with isolated serial and Ethernet ports and screw terminal connectors for serial and power. It supports industrial protocols such as Modbus TCP, Modbus ASCII, Modbus RTU and DF1, and is FM-approved for hazardous locations Class 1, Div. 2.

- 15KV serial ESD protection and 2.5KV Ethernet isolation protects circuitry from overcurrent conditions.
- Wide -40° to 70°C operational temperature range.
- 9-30 VDC and 9-24 VAC power input options.

Features

Serial Interface
- 2 RJ45 RS-232 Serial Ports
- Baud rate selectable from 300 to 230 Kbps
- 1 screw terminal RS-422/485 interface on Serial Port 2 (2 and 4-wire support)
- LED indicators for TXD and RXD activities

Serial Line Formats
- Characters: 7 or 8 data bits
- Stop bits: 1 or 2
- Parity: odd, even, none

Flow Control
- Hardware: RTS/CTS
- Software: XON/XOFF

Modem Control
- DTR, DSR

Network Interface
- 2 RJ45 10Base-T/100Base-TX Ethernet ports
- Embedded, unmanaged, fully compliant 802.3u non-blocking Ethernet switch
- Store and forward architecture with 1K MAC address lookup table
- Automatic MDI/MDI-X crossover
- Full duplex IEEE 802.3x flow control
- Half duplex back pressure flow control
- IEEE 802.1d spanning tree

LED Indicators
- TX/RX activity per serial
- Link/Activity per Ethernet port
- Power/System OK

Management
- Internal web server (standard tunneling firmware only)
- SNMP (read only)
- Serial login
- Telnet login
- DeviceInstaller software

Isolation
- 8 KV direct contact, 15KV air discharge, ESD protection on all Serial ports (IEC 1000-4-2, IEC 61000-4-2)
- 2 K VAC / 2.8K VDC galvanic isolation between Power Input port to Ethernet ports (except Chassis ground)
- 2 K VAC / 2.8K VDC galvanic isolation between Power Input port to Serial ports
- Transient Voltage protection and ESD with max non-repetitive surge current 800 Amp (8/20 µs) (IEC 61000-4-2)
- 2 K VA / 2.8K VDC galvanic isolation between Ethernet ports (except chassis ground)
- 2 K VA / 2.8K VDC galvanic isolation between Ethernet ports to Serial ports
- 40 A (5/50 ns) EFT protection (IEC 61000-4-4), 12 A (8/20 µs) lightning protection (IEC 61000-4-5) on all Ethernet ports

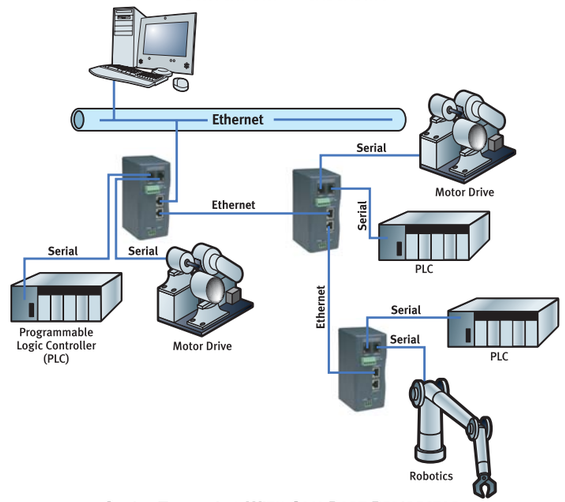
Power

Removable screw terminal block connector
- 9-30 VDC or 9-24 VAC with chassis ground
- 2.3 Watts maximum

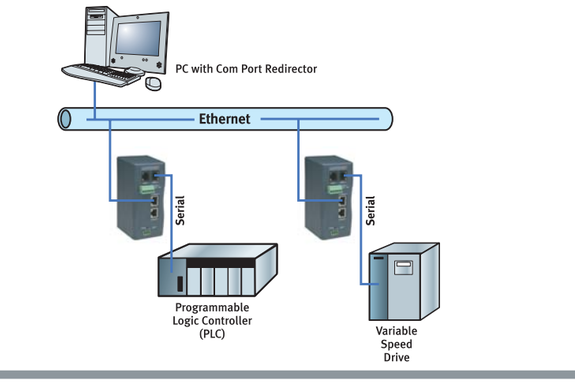
Environmental (Operating)
- Temperature: -40°C to +70°C (-40 to 158°F)
- Humidity: 20% to 90% relative humidity, non-condensing

Agency Approvals
- UL, CSA, FCC, CE, TUV, CTick, VCCI, FM Class 1, Div. 2

SwitchPort+™ Cascading



Serial Tunneling With Com Port Redirector



Protocols Supported
- ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP, DHCP, BOOTP, TFTP, and HTTP

Installable Industrial Application Protocols
- ModBus TCP, ModBus ASCII/RTU, DF1 Multi-Master

CPU
- Lantronix DSTNI-EX 48 MHz clock, 256 KB SRAM Internal CPU Memory

Flash Memory
- 2 MB Flash

EEPROM
- 2 KB

Reset
- Front panel recessed push button

Packaging
- Case: High-impact plastic case with integrated DIN Rail (35 mm) mount IP30 enclosure rating
- Dimensions: (L x W x H): 88 x 57 x 123 mm (3.45 x 2.25 x 4.85 in), terminal blocks included
- Weight: 0.21 kg (0.46 lb)

Shipping Dimensions (L x W x H)
- 187 x 229 x 111 mm (7.375 x 9.0 x 4.375 in.)

Warranty
- 2-year limited warranty

Ordering Information

Part Number	Description
XSDR22000-01	Two port industrial device server with dual switched Ethernet ports and industrial protocols

XPress-DR+ Wireless Industrial Device Server

- Provides mobility and remote management of industrial equipment while minimizing costly cabling
- Industry standard 802.11 b/g wireless or Ethernet networking
- Cascade multiple devices from a single network connection
- Supports industrial protocols
- Maximizes flexibility with an internal 2-Port 10Base-T/100Base-TX Ethernet switch
- 15KV serial ESD protection and 2.5KV Ethernet isolation
- Wide -40° to 70°C operational temperature range

RoHS WEEE COMPLIANT

Wirelessly Network All Your Industrial Equipment – Quickly and Easily!

The XPress-DR+™ Wireless industrial device server adds an unprecedented level of flexibility and mobility to networking factory equipment such as PLCs, drives, motion controllers, power equipment, barcode scanners and other serial devices. Without costly cable runs, this equipment can be managed from virtually anywhere over the Net.

A versatile, powerful tool for remote management of automation and assembly/packaging equipment at manufacturing sites, automated distribution centers, refinery plants – or any industrial setting – it provides complete wireless access and control of virtually any type of equipment with a serial port!

Extending Network Connectivity with SwitchPort+

XPress-DR+ Wireless supports 802.11 b/g and Ethernet networking modes. In Ethernet mode (two 10/100 Ethernet ports) it features patent-pending SwitchPort+™ technology which enables multiple industrial serial devices to be daisy chained (cascaded) from a single network backbone connection. SwitchPort+ combines Lantronix advanced device server technology with Ethernet switching technology to provide a robust and reliable method for networking equipment. Saves time and money by avoiding unnecessary cable runs and eliminates serial cable distance limitations.

Standards Based Communications

Using an open 802.11 b/g or Ethernet architecture as a standard for device communication provides the flexibility to communicate to virtually any type of industrial equipment. Additionally it enables new equipment to be quickly and easily incorporated into existing network system designs.

When used in conjunction with an OPC server, most Windows® based HMI, SCADA and PC-based control applications have full access to information in the connected device. Existing COM-port based Windows applications can access network-enabled devices using Lantronix Com Port Redirector™. This specialized software creates virtual serial ports, which are mapped to the device server over 802.11 or Ethernet.

Thrives in the Industrial Environment

The XPress-DR+ Wireless meets the demanding, complex industrial environment head on. Packaged in a rugged DIN-rail mount case, it's equipped with isolated serial and Ethernet ports and screw terminal connectors for serial and power. It supports industrial protocols such as Modbus TCP, Modbus ASCII, Modbus RTU and DF1, and is FM-approved for hazardous locations Class 1, Div. 2.

- 15KV serial ESD protection and 2.5KV Ethernet isolation protects circuitry from overcurrent conditions.
- Wide -40°– 70°C operational temperature range.
- 9-30 VDC and 9-24 VAC power input options.

Features

Serial Interface
- 2 RJ45 RS-232 Serial Ports
- Baud rate selectable from 300 to 230 Kbps
- 1 screw terminal RS-422/485 interface on Serial Port 2 (2 and 4-wire support)
- LED indicators for TXD and RXD activities

Serial Line Formats
- Characters: 7 or 8 data bits
- Stop bits: 1 or 2
- Parity: odd, even, none

Flow Control
- Hardware: RTS/CTS
- Software: XON/XOFF

Modem Control
- DTR, DSR

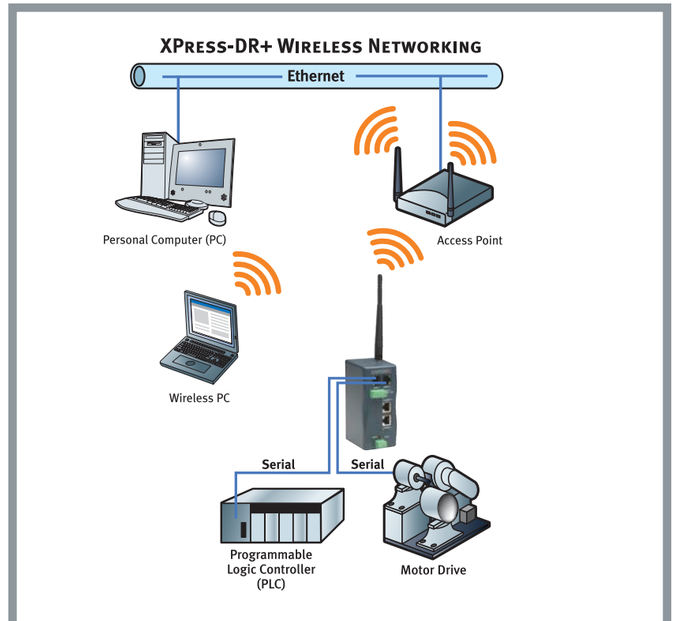
Network Interface
- 802.11 b/g wireless (with IEEE 802.11i - PSK with AES-CCMP Encryption)
- 2 RJ45 10Base-T/100Base-TX Ethernet ports
- Embedded, unmanaged, fully compliant 802.3u non-blocking Ethernet switch
- Store and forward architecture with 1K MAC address lookup table
- Automatic MDI/MDI-X crossover
- Full duplex IEEE 802.3x flow control
- Half duplex back pressure flow control
- IEEE 802.1d spanning tree

LED Indicators
- TX/RX activity per serial
- Link/Activity per Ethernet port
- Power/System OK
- Wireless Link

Management
- Internal web server (standard tunneling firmware only)
- SNMP (read only)
- Serial login
- Telnet login
- DeviceInstaller software

Isolation
- 8 KV direct contact, 15KV air discharge, ESD protection on all Serial ports (IEC 1000-4-2, IEC 61000-4-2)
- 2 K VAC / 2.8K VDC galvanic isolation between Power Input port to Ethernet ports (except Chassis ground)
- 2 K VAC / 2.8K VDC galvanic isolation between Power Input port to Serial ports
- Transient Voltage protection and ESD with max non-repetitive surge current 800 Amp (8/20 µs) (IEC 61000-4-2)
- 2 K VA / 2.8K VDC galvanic isolation between Ethernet ports (except chassis ground)
- 2 K VA / 2.8K VDC galvanic isolation between Ethernet ports to Serial ports
- 40 A (5/50 ns) EFT protection (IEC 61000-4-4), 12 A (8/20 µs) lightning protection (IEC 61000-4-5) on all Ethernet ports

Power
- Removable screw terminal block connector
- 9-30 VDC or 9-24 VAC with chassis ground
- 2.6 Watts maximum



Environmental (Operating)
- Temperature: -40°C to +70°C (-40 to 158°F)
- Humidity: 20% to 90% relative humidity, non-condensing

Agency Approvals
- UL, CSA, FCC, CE, TUV, CTick, VCCI, FM Class 1, Div. 2

Protocols Supported
- ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP, DHCP, BOOTP, TFTP, and HTTP

Installable Industrial Application Protocols
- ModBus TCP, ModBus ASCII/RTU, DF1 Multi-Master

CPU
- Lantronix DSTNI-EX 48 MHz clock, 256 KB SRAM Internal CPU Memory

Flash Memory
- 2 MB Flash

EEPROM
- 2 KB

Reset
- Front panel recessed push button

Packaging
- Case: High-impact plastic case with integrated DIN Rail (35 mm) mount IP30 enclosure rating
- Dimensions: (L x W x H): 88 x 57 x 123 mm (3.45 x 2.25 x 4.85 in), terminal blocks included
- Weight: 0.21 kg (0.46 lb)

Shipping Dimensions (LxWxH)
- 187 x 229 x 111 mm (7.375 x 9.0 x 4.375 in.)

Warranty
- 2-year limited warranty

Ordering Information

Part Number	Description
XSDR22W00-1	Two port 802.11 wireless industrial device server, removable screw terminal port, 9-30VDC and 9-24VAC

XPress-DR/XPress DR-IAP Industrial Device Servers

- Connect enterprise (ERP, MES) systems to factory floor devices without disturbing existing control networks
- Allow remote firmware upgrades, saving money and time from manual upgrades
- IAP version supplies many industrial communication protocols
- Configurable serial interface supports RS-232, RS-422, or RS-485
- 10Base-T/100Base-TX Ethernet (RJ45)
- Isolated serial and Ethernet ports
- FM-approved for hazardous locations Class I, Div. 2
- RoHS compliant

RoHS WEEE COMPLIANT

Remotely Configure, Program, Monitor, and Manage:

PLCs, drives, process controls, power monitoring equipment, barcode scanners, and other factory floor serial devices

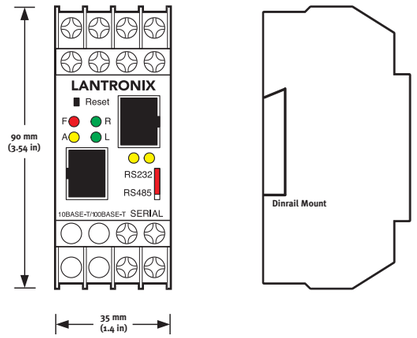
The XPress DR™ and XPress DR-IAP device servers enable virtually any industrial device with serial capability to be connected to a new or existing Ethernet network.

By encapsulating serial data and transporting it over Ethernet, the XPress DR/DR-IAP establishes virtual serial links over Ethernet. By using these units, limited-distance, point-to-point, direct serial connections can now be extended within the plant, throughout the facility, or across the global enterprise.

When used in conjunction with an OPC server, most Windows® based HMI, SCADA, and PC-based control applications have full access to information in the connected device.

The XPress DR-IAP installable communication drivers allow specific support for various industrial communication protocols. With native support for these protocols, devices that previously allowed only one connection can now support multiple connections simultaneously.

Packaged in a rugged DIN-rail mount case and featuring 2000V galvanic isolation, 1500V Ethernet isolation, a wide 0° to 60°C operating range, and a 9-30VDC/9-24VAC power input, the XPress DR and XPress DR-IAP are ideal for any industrial application.



Features

Serial Interface
Interface: RS-232, RS-422, or RS-485
Connector: Screw terminals or RJ45
Data Rates: 300 to 115,200 bps

Serial Line Formats:
Characters: 7 or 8 data bits
Parity: odd, even, none
Stop Bits: 1 or 2

Flow Control:
Software: XON/XOFF
Hardware: RTS/CTS
Installable Serial Protocols (XPress DR-IAP only)

Network Interface
Standards: ARP, UDP/IP, TCP/IP, ICMP, SNMP, BOOTP, DHCP, TFTP, Telnet, and HTTP
Interface: 10Base-T/100Base-TX Ethernet
Connector: RJ45
Installable application layer protocols (XPress DR-IAP only)

LED Indicators
Ready, Fault/Configuration, Activity, Link, Serial Transmit Data, Serial Receive Data

Management
SNMP, serial, Telnet, and HTTP (web browser)

Isolation
Ethernet: 1500 Vrms
Serial: 2000 Vrms

Power
Input: 9 to 30VDC/9-24VAC, 3W maximum
Connector: Screw terminals for power and ground

Environmental (Operating)
Temperature: 0° to 60°C (32° to 140°F)
Humidity: 20% to 90% RH, non-condensing

Agency Approvals
UL, CSA, TUV, FCC, CE, FM Class I, Div. 2

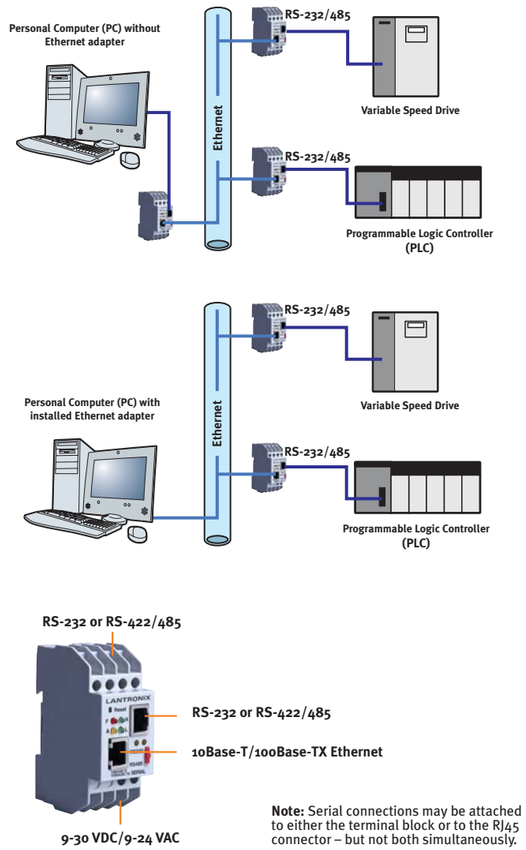
Warranty
1-year limited warranty

Software
Included Windows® 95/98/ME/NT/2000-based configuration software simplifies initial setup

Packaging
Mounting: DIN-rail (35 mm)
Material: High-impact plastic
Dimensions: 60 x 36 x 90 mm (2.4 x 1.4 x 3.54 in)

Shipping Dimensions (L x W x H)
187.3 x 228.6 x 111 mm (7.375 x 9.0 x 4.375 in)

Master/Slave Application



Note: Serial connections may be attached to either the terminal block or to the RJ45 connector – but not both simultaneously.

Ordering Information

Part Number	Description
XSDRSN-02	XPress-DR: standard part
XSDRIN-02	XPress-DR-IAP with installable industrial protocols

industrial device server, DIN-rail mounting, serial interface (RS-232, RS-422, RS-485 – terminal block or RJ45), 10Base-T/100Base-TX Ethernet, diagnostic LEDs, 9VDC to 30VDC power input, CD-ROM with configuration tools, installable communication drivers, and Installation Guide.

WiBox Wireless Device Server

- Enables access to remote devices while minimizing costly cabling
- Provides network mobility for untethered communication
- Industry standard 802.11b/g wireless interface
- Transparent communications - no need to develop special software
- Two DB9 DTE serial ports supporting RS-232, RS-422 or RS-485 communication
- Compact size enables it to fit almost anywhere
- Secure wireless communication: WEP, WPA, TKIP
- 256-bit AES – end-to-end encryption
- Ethernet or wireless communication

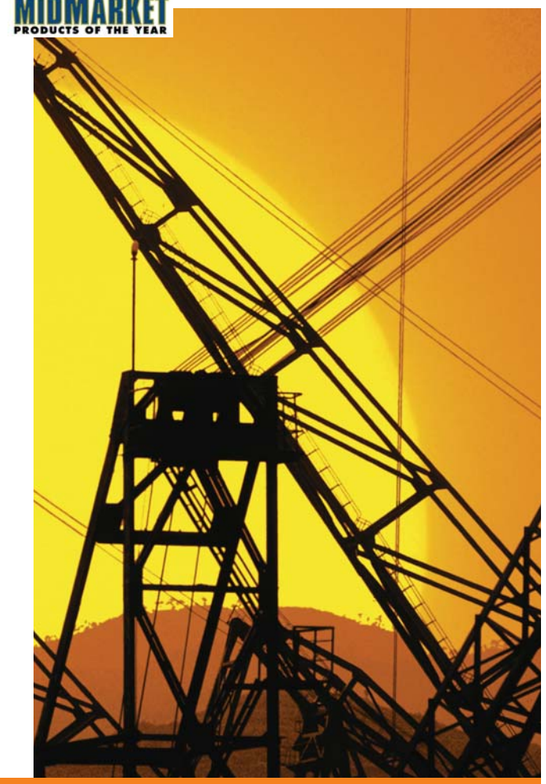
Wirelessly Connect, Monitor, Manage and Control Devices Over a Network or the Internet

WiBox® dual-port device servers enable you to connect equipment to 802.11b/g wireless networks via serial or Ethernet, quickly and easily. By merging wireless communications and Lantronix device server technology, WiBox simplifies connectivity to devices in applications where mobility is required or cabling is impractical.

Lantronix's innovative approach to network-enabling devices is transparent to your attached devices and software. You won't need to change the way you work, and there's no need to develop special software to take advantage of wireless networking capabilities. The WiBox simply becomes a conduit between you and your device over your network or the Internet.

The flexibility and power of WiBox offers a huge cost-saving potential for a variety of commercial applications. Serial RS-232/422/485 flexibility, Advanced security, robust data handling capabilities and high serial speeds are all built in.

If you're looking for a transparent, cost-effective and scalable means to network-enable your equipment, look no further than WiBox from Lantronix.



Features

Serial Interface
Serial Port 1: RS-232
Serial Port 2: RS-232/422/485 software selectable
Data Rates: 300 to 921,600 bps
ESD Protection: 4kv direct per port
Data Encryption: 128-256 Bit Rijndael AES Encryption, NIST AES FIPS-197 CERT#120

Serial Line Formats
Characters: 7 or 8 data bits
Parity: Odd, even, none
Stop Bits: 1 or 2
Control Signals: RTS, CTS, DSR, DTR, DCD

Flow Control:
XON/XOFF, RTS/CTS

Network Interface
WBX2100E - 802.11b/g
Connector: WBX2100E - Antenna (RP-SMA)
Standards: WPA, WEP, ARP, UDP/IP, TCP/IP, ICMP, SNMP, AutoIP, DHCP, TFTP, Telnet and HTTP
1 RJ45
10/100 Ethernet

LED Indicators
Power
Ethernet Link
Wireless Link
Serial 1
Serial 2

Processor
CPU: DSTni-EX (enhanced 80186, 88 MHz)
Memory: 256 Kbytes SRAM, 512 Kbytes flash

Management
Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, HTTP
Security: WEP, WPA, TKIP

Power
Input: 9-30 VDC
Consumption: 2 W max.
AC adapter included (see ordering information below)

Environmental
Operating temperature range: -40° to 70°C
Operating humidity: 0 to 95%, non-condensing
Storage temperature range: -40° to 85°C

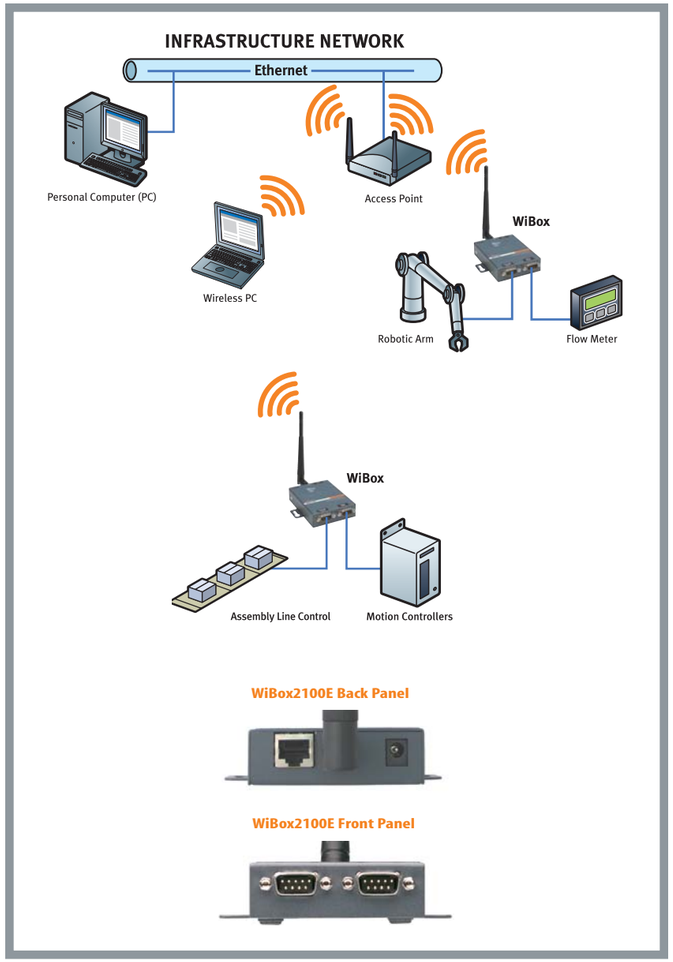
Packaging
Material: metal case with flange mount
Dimensions (LxWxH): 94 x 72 x 23 mm (3.7 x 2.8 x .9 in)
Weight: 0.4 kg (0.9 lbs)

Agency Approvals
FCC-B, C/UL, CSA, CE, TUV, CTick, Japanese Radio Certification (Type Certification of Specified Radio Equipment)

Software
Windows® 98/ME/NT/2000/XP-based configuration software, Com Port Redirector software, related utilities

Shipping Dimensions (LxWxH)
Dimensions: 242 x 191 x 115 mm (9.5 x 7.5 x 4.5 in.)
Weight: 1.5 kg (3.0 lbs.)

Warranty
2-year limited warranty



Ordering Information

Part Number	Description
WB2100EG1-01	WBX2100E 802.11b/g with 10/100 Ethernet, 115Vac, 50/60 HZ power adapter
WB2100EG2-01	WBX2100E 802.11b/g with 10/100 Ethernet, 100-240Vac, 50/60 HZ International power adapter
WB2100EG0-01	WBX2100E 802.11b/g with 10/100 Ethernet, no power supply
WB2100EGB-01	WBX2100E 802.11b/g with 10/100 Ethernet, Board only
ACDIN2001-01	DIN-rail mount
500-164	DB9F to DB9F null modem serial cable

UDS1100-IAP Industrial Device Server

- In minutes, securely connect factory floor devices to enterprise systems
- Access, monitor and control equipment over Ethernet
- Replace dedicated PCs and/or modem lines with fast and reliable Ethernet networking
- Supports RS-232, RS-422 and RS-485 communications
- Includes Modbus TCP, ASCII, RTU and DF1 protocols
- 15KV serial ESD protection
- Wide -40°to 70°C operating temperature range
- Environmentally-friendly RoHS and WEEE-compliant

RoHS WEEE COMPLIANT

Remotely Monitor, Manage and Control Industrial Equipment Over the Net

The UDS1100-IAP is a rugged and powerful tool which enables users to connect, manage and control just about any piece of industrial equipment from virtually anywhere over Ethernet or the Internet.

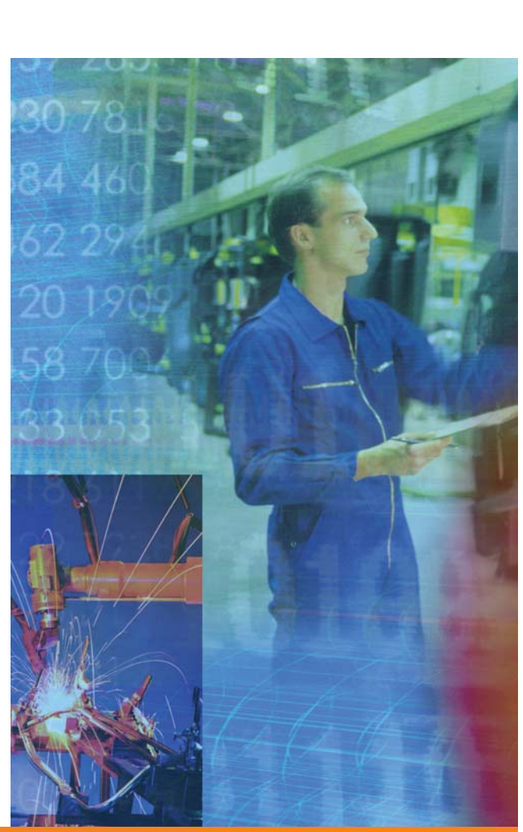
This single-port device server is a quick, simple and inexpensive way to bring the advantages of real-time or on-demand information access.

Standards Based Communications

Using an open Ethernet architecture as a standard provides the flexibility for equipment to communicate to virtually any type of industrial device.

When used in conjunction with an OPC server, most Windows® based HMI, SCADA and PC-based control applications have full access to information in the industrial equipment networked by the UDS1100-IAP.

If you're looking for a transparent, cost-effective, and scalable means to network-enable your industrial automation equipment, look no further than the UDS1100-IAP.



Features

Serial Interface
- **Interface:** Software-selectable RS232, RS422 or RS485 (2 and 4 wire support)
- **Connectors:** 1 DB25F DCE serial port
- **Data Rates:** Software-selectable baud rate from 300 to 230 KBaud

Serial Line Formats:
- **Characters:** 7 or 8 data bits
- **Parity:** odd, even, none
- **Stop Bits:** 1 or 2

Flow Control:
- **Hardware:** RTS/CTS
- **Software:** XON/XOFF

Network Interface
- **Interface:** 10Base-T/100Base-TX Ethernet port
- **Software selectable Ethernet speed 10/100/Auto**
- **Software selectable Half/Full/Auto duplex**
- **Connector:** RJ45
- **Standards:** ARP, UDP, TCP, ICMP, Telnet, TFTP, AutoIP, DHCP, HTTP, SNMP, TCP, UDP, and Telnet, TFTP

LED Indicators
- **Power, 10/100 Link/Activity** (green), **100/100 Link/Activity** (green), **Diagnostics** (red), **Status** (green)

Processor
- **CPU:** Lantronix DSTNI-EX 48 MHz clock
- **Memory:** 256 KB zero wait state SRAM, 2 MB Flash

Management
- **Lantronix DeviceInstaller GUI, Serial login,SNMP, Telnet login,HTTP**

Power
- **9-30 VDC or 9-24 VAC on barrel connector** (1.5 Watts maximum consumption)
- **9-30 VDC on DB25F serial interface**
- **3.3vdc on serial interface**

Environmental
- **Operating:** -40° to 70° C (41° to 158° F)
- **Storage:** -40° to 85° C (-40 to 185° F)

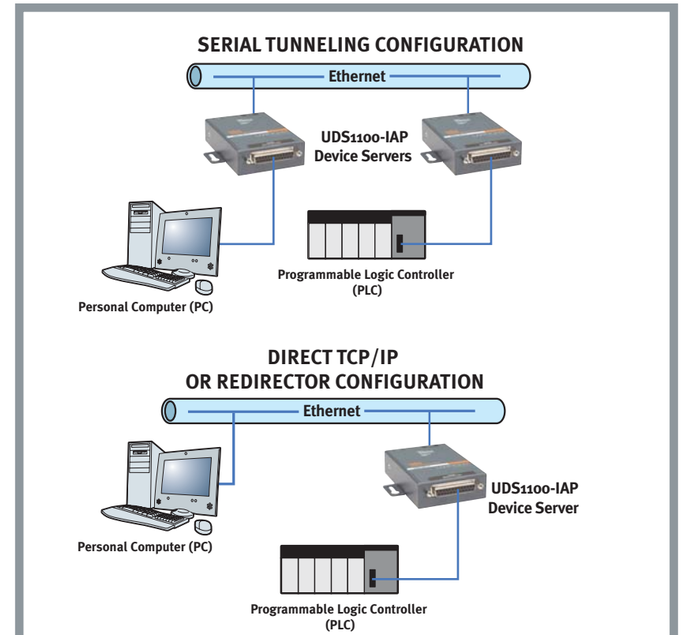
Agency Approvals
- **UL, CSA, FCC, CE,TUV, CTick,VCCI**

Software
- **Windows® 98/ME/NT/2000/XP-based DeviceInstaller configuration software, Com Port Redirector™ software and related utilities**

Packaging (LxWxH)
- **Material:** Metal enclosure with integrated wall mounts; optional 35 mm DIN-rail mount available
- **Dimensions:** 9.0 x 6.4 x 2.3 cm (3.5 x 2.5 x 0.9 in)
- **Weight:** 0.20 kg (0.45 lb)
- **IP Rating: 30**

Shipping Dimensions
- **Dimensions (LxWxH): 242 x 191 x 115 mm** (9.5 x 7.5 x 4.5 in)
- **Weight:** 1.5 kg (3.0 lbs)

Warranty
- **2-year limited warranty**



Emissions
- **FCC Part 15 Subpart B Class A** Radiated Emissions 30MHz – 1000MHz
- **ICES-003 Issue 4 February 2004 Class A** Radiated Emissions 30MHz – 1000MHz
- **AS/NZS CISPR 22: 2004 Class A** Radiated Emissions 30MHz – 1000MHz
- **EN55022: 1998 + A1: 2000 + A2: 2003 Class A** Radiated Emissions 30MHz – 1000MHz
- **VCCI V-3/2005.04 Class A** Radiated Emissions 30MHz – 1000MHz
- **EN61000-3-2: 2000 Class A** Harmonic Current Emissions
- **EN61000-3-3: 1995** + A1: 2001 Fluctuations and Flicker

Immunity
- **EN55024: 1998** +A1: 2001 +A2: 2003
- **IEC_61000-4-2: 1995 ESD 8KV Air Discharge (Direct), 4KV Contact Discharge** (Direct/Indirect)
- **IEC_61000-4-3: 1995** Radiated Immunity 3.0V/m, 1KHz AM Sine Wave at 80%
- **IEC_61000-4-4: 1995** EFT/Burst 1.0KV Power Lines, 0.5KV I/O Lines
- **IEC_61000-4-5: 1995** Surge Immunity 1.0KV Common Mode, 1.0 KV Differential Mode
- **IEC_61000-4-6: 1996** Conducted Immunity 3.0 Vrms, 80% AM Modulated (1KHz)
- **IEC_61000-4-8: 1993** Magnetic Field Immunity 50Hz 1.0 Arms/m
- **IEC_61000-4-11: 1994 Voltage Dips and Interrupts** (>95%,0.5 periods), (30%,25 periods), (>95%,250 periods)

Isolation

Designed with protection against transients and ESD for use under harsh environments.
- **Serial Port:** 15 KV ESD protection on RS232 and RS422/485 transceivers
- **Power Input:** Up to non-repeated 600 W 10/100 usec pulse protection against transient over voltages
- **Ethernet Port:** 1500 VAC isolation shielded with shield connected to chassis ground for signal integrity and ESD protection

Ordering Information

Part Number	Description
UD1100IA2-01	UDS1100-IAP device server, 100-240 VAC International power supply with regional adapters, includes 500-163 cable and ACDIN1001-01 Din rail mount
Accessories	
500-163	DB25M to DB9F serial cable (included)
ACDIN1001-01	Optional DIN-rail mount (included)
500-171-R	DB25M to RS485 and power input screw terminal adapter (order separately)

CoBox-FL-IAP Fiberoptic Device Server

- Choose from many industrial communications protocols or the standard Serial Tunneling Protocol on the supplied CD
- Connect enterprise (ERP, MES) systems to factory floor devices without disturbing existing control networks
- Dual serial ports support RS-232 (DB9) and RS-232, RS-422/485 (DB25) at rates up to 115,200 bps
- Universal 100 VAC to 240 VAC power adapter included

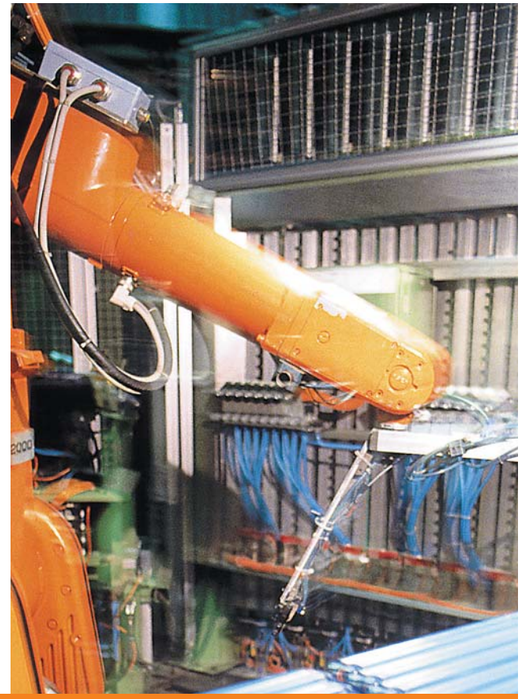
Manage Industrial Devices Over Ethernet Networks Through Fiberoptic Cabling

The CoBox-FL-IAP device server allows virtually any serial device to connect to a new or existing Ethernet network. Featuring a 10Base-FL fiberoptic interface, it is ideal for applications that require long cable runs, EMI/RFI immunity, and the inherent electrical isolation offered by optical fiber.

The CoBox-FL-IAP is a member of the Lantronix IAP (Industrial Automation Platform) family of products that are loadable with various industrial communications protocols from a supplied CD. The IAP CD allows the user to choose the appropriate protocol that the application requires and load that protocol into any of our IAP device servers. By continuously adding additional industrial communication protocols to the IAP CD, we will expand the number of applications where IAP products can be used.

By encapsulating serial data and transporting it over Ethernet, the CoBox-FL-IAP allows virtual serial links to be established over the network. Limited distance, point-to-point serial connections can now be extended within the plant, throughout the facility, or across the global enterprise. When used in conjunction with an OPC server, most Windows-based HMI, SCADA and PC-based control applications have full access to information in the connected device.

Installable communication drivers allow specific support for most industrial communication protocols. With native support for these protocols, devices that previously allowed only one connection can now support multiple connections simultaneously.



Features

Serial Interface (Port 1)
- **Interface:** RS-232, RS-422 or RS-485
- **Connector:** DB25, DCE configuration
- **Data Rates:** 300 to 115,200 bps

Serial Line Formats:
- **Characters:** 7 or 8 data bits
- **Parity:** odd, even, none
- **Stop Bits:** 1

Flow Control:
- **Flow Control:** XON/XOFF, RTS/CTS, NONE
- **Control Signals:** RTS, CTS, DSR, DCD, DTR
- Installable serial protocols

Serial Interface (Port 2)
- **Interface:** RS-232
- **Connector:** DB9, DTE configuration
- **Data Rates:** 300 to 115,200 bps

Serial Line Formats:
- **Characters:** 7 or 8 data bits
- **Parity:** odd, even, none
- **Stop Bits:** 1

Flow Control:
- **Flow Control:** XON/XOFF, RTS/CTS, NONE
- **Control Signals:** RTS, CTS, DCD, DTR
- Installable serial protocols

Network Interface
- **Standards:** ARP, UDP/IP, TCP/IP, ICMP, SNMP, BOOTP, DHCP, TFTP, Telnet and HTTP
- **Interface:** 10Base-T Ethernet (RJ45) or 10Base-FL multi-mode fiber (ST)
- **Connector:** RJ45
- Installable application layer protocols

LED Indicators
- **Link** (green), **Network Transmit/Receive** (yellow), **Collision** (red), **Status-Port 1** (green), **Status-Port 2** (yellow), **Fault Indicator** (red)

Management
- **SNMP, serial, Telnet and HTTP** (web browser)

Power
- **Input:** 9 to 30 VDC, 9 W max, Universal 100 VAC to 240 VAC, 50/60 Hz power adapter included

Environmental
- **Operating:** 5° to 50°C (41° to 122°F)
- **Storage:** -40° to 66°C (-40° to 151°F)

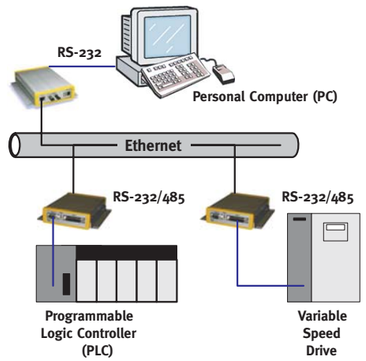
Agency Approvals
- CE, FCC B, TUV, C/UL

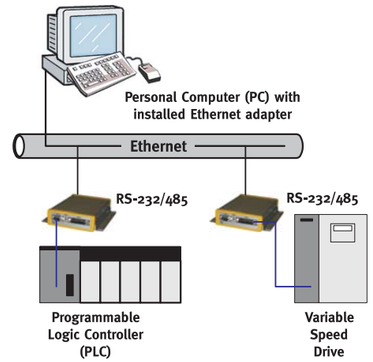
Software
- Included Windows® 95/98/ME/NT/2000/XP-based configuration software simplifies initial setup

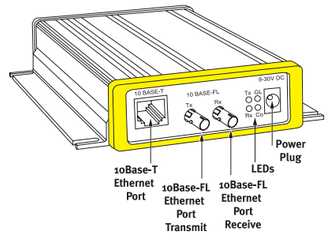
Packaging
- **Mounting:** Flange
- **Material:** Metal case
- **Dimensions:** 40 x 155 x 183 mm (1.57 x 6.1 x 7.2 in)
- **Weight:** 0.5 kg (1.1 lbs)

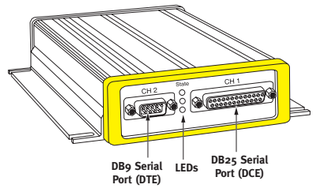
Shipping (LxWxH)
- **Dimensions:** 242 x 191 x 115 mm (9.5 x 7.5 x 4.5 in)
- **Weight:** 1.5 kg (3.0 lbs)

Warranty
- 1-year limited warranty









Ordering Information

Part Number	Description
CoBox-FL-IAP-11	Device server, 1 DB25 (RS-232, RS-422/485) serial port, 1 DB9 (RS-232), ST fiber (10Base-FL) and 10Base-T network ports, diagnostic LEDs, APS CD-ROM with configuration tools, installable communication drivers and installation guide.

WiPort Embedded Device Server

- 802.11 b/g wireless networking for virtually any electronic device
- Wired Ethernet-to-wireless bridging
- Bulletproof wireless security with IEEE 802.11i-PSK, WPA-PSK, TKIP
- Secure end-to-end communication with Advanced Encryption Standards (AES)
- Complete networking, applications and Web server software
- FCC Class B, UL and EN EMC and safety-compliant
- Supports ModBus protocols

RoHS WEEE COMPLIANT

Build 802.11 b/g Wireless Networking Into Your Products!

A compact, integrated hardware and software network processor module, WiPort™ enables you to build wireless networking into virtually any electronic device with serial or Ethernet capability. With WiPort your products can be wirelessly accessed and controlled over a network or the Internet!

The matchbook-sized WiPort takes the complexity out of RF design and Ethernet networking and WiPort enables engineers to focus on their core competency of designing products. It minimizes engineering risk, reduces cost and shortens development time. Just apply power and UART output, and the product is wireless and network-ready!

Complete Wireless Network Processing Module

Powered by a Lantronix DSTni™ Ethernet processor SoC that includes a 10Base-T/100Base-TX MAC/PHY and 256 KB of on-chip SRAM, WiPort also includes a complete 802.11 b/g radio and 2MB of Flash memory for web page storage and system upgrades. WiPort is a dedicated co-processor module that optimizes network activity, permitting the device's host microprocessor to function at maximum efficiency. WiPort connects through its coaxial "pigtail" to an external panel-mounted antenna for rapid electro-mechanical integration. WiPort works with serial or Ethernet interface devices. SPI, I2C, USB or CAN connectivity can be enabled as a future option.

Bulletproof Security

With IEEE 802.11i-PSK or WPA (PSK, TKIP) encryption WiPort offers heightened security. WiPort also supports 256-bit Advanced Encryption Standards (Rjindael) encryption for true end-to-end (wired to wireless to wired) secure data transfer.

Robust, Feature-Rich Software Suite

Eliminating the need to negotiate the intricacies of Transmission Control Protocol (TCP) or Internet Protocol (IP), WiPort incorporates:

- Robust Real Time Operating System (RTOS).
- Full-featured network protocol stack.
- Proven, ready-to-use serial-to-wireless application.
- Built-in web server for device communication and configuration via a standard browser.

FCC Certified for Immediate Deployment

WiPort is certified by the U.S. Federal Communications Commission (FCC). This allows you to leverage the Lantronix WiPort FCC license grant to your label and bypass 802.11 regulatory testing. This accelerates time-to-market and reduces development and testing costs. WiPort is also pre-tested for European telecommunications regulations.

Ethernet-to-Wireless Bridging

With a separate Ethernet port, WiPort offers the unique ability to transparently bridge existing Ethernet-ready devices to a wireless network.

Scan, Cather and Report Radio Parameters

With its Scan command, WiPort enables the ability to report MAC address, RSSI and SSID which are extremely useful during site survey work. The Network Status command additionally reports channel, infra/adhoc, security type, authentication, negotiated encryption types for the current association.

Features

Wireless Specifications

Wireless Standards: IEEE 802.11b; 802.11g
Frequency Range: 2.412 – 2.484 GHz
Output Power: 14dBm +1.5 dBm/-1.0 dBm
Maximum Receive Level: -10dBm (with PER < 8%)
Data Rates With Automatic Fallback
54Mbps – 1Mbps
Media Access Control: CSMA/CA with ACK
Range: Up to 328 feet indoors
Modulation Techniques: OFDM, DSSS, CCK, DQPSK, DBPSK, 64 QAM, 16 QAM

Serial Interface

Interface: CMOS (Asynchronous) 3.3V-level signals, rate is software selectable (300 bps to 921,600 bps)
Serial Line Formats: 7 or 8 data bits, 1-2 Stop bits
Parity: odd, even, none
Modem Control: DTR, DCD
Flow Control: XON/XOFF (software), CTS/RTS (hardware), none

Network Interface

Interface: Wireless 802.11b, 802.11g and 10/100 Ethernet
Protocols Supported: ARP, UDP, TCP, Telnet, ICMP, SNMP, DHCP, BOOTP, Auto IP, HTTP, SMTP, TFTP

Management

Internal web server,
SNMP (read only)
Serial login
Telnet login
DeviceInstaller software

Security

IEEE 802.11i - PSK with AES-CCMP Encryption
WPA - PSK
TKIP Encryption
64/128-bit WEP

Internal Web Server

Serves web pages
Storage capacity: 1.2 MB

Architecture

CPU, Memory: Lantronix DSTni-EX 186 CPU, on-chip 256 KB zero wait static SRAM, 2,048 KB Flash, 16 KB Boot ROM, 802.11 b/g radio
Firmware: Upgradeable via TFTP and serial port

Power Consumption

Average Power Consumption:
- 1300 mW (WLAN mode; maximum data rate)
- 300 mW (WLAN mode; idle)
- 750 mW (Ethernet mode)

Peak Supply Current: 650 mA

Environmental

Operating range, WLAN: -40° to 70°C (-40° to 158°F)
Storage range: -40° to 85°C (-40° to 185°F)

Software

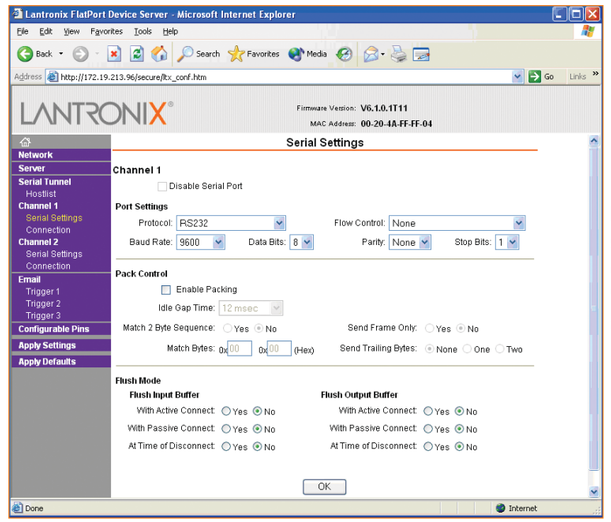
Windows® 98/NT/2000/XP based DeviceInstaller configuration software and Com Port Redirector™, Web-Manager

Packaging

Dimensions: 33.9 x 32.5 x 10.5 (1.335 x 1.28 x .415 in)
Weight: 29g
Material: Metal shell

Warranty

2-year limited warranty



The included DeviceInstaller software makes configuring WiPort quick and easy!

WiPort Evaluation Kit

The WiPort Evaluation Kit includes everything you need to integrate the WiPort into your next product design, including:

- WiPort evaluation board
- WiPort device server
- RS-232 cable, DB9F, null modem
- Cat5e UTP RJ45M/M Ethernet cable
- CD with software utilities and PDF documentation
- 3.3V power supply
- Antenna

Ordering Information

Part Number	Description
WP2001000G-02	– WiPort b/g bulk pack – Minimum order quantity 25 units
WP2002000G-02	– WiPort b/g AES bulk pack – Minimum order quantity 25 units
WP200200SG-02	– WiPort b/g AES sample case – One WiPort enclosed – Free 30-day Secure Com Port Redirector™ evaluation license – Order quantities of up to 10
WP200200KG-02	– WiPort Evaluation Kit
930-033	– Accessory antenna

XPort Embedded Device Server

- Minimal engineering effort required to web-enable virtually any electronic device
- Remote command and control of edge devices
- Real-time edge device status via e-mail alerts
- 256-bit AES encryption for secure communications
- EMC/EMI-compliant; RoHS-compliant
- Everything you need – all in a single RJ45 package
- Supports ModBus protocols

RoHS WEEE COMPLIANT

Build Network Connectivity into Your Products, Quickly and Simply

XPort® is a compact, integrated solution to web-enable any device with serial capability. By incorporating XPort to a product design, manufacturers can offer network connectivity as a standard feature within weeks — so they can be accessed and controlled over the Internet.

Full Networking in a Tiny Package

XPort removes the complexity – of designing network connectivity into a product by incorporating all of the required hardware and software inside a single embedded solution. Smaller than your thumb, it includes all essential networking features, including a 10Base-T/100Base-TX Ethernet connection, proven operating system, an embedded web server, e-mail alerts, a full TCP/IP protocol stack, and 256-bit AES encryption for secure communications. This easy-to-embed networking processor module enables engineers to focus on their core competency while reducing development time and cost and increasing product value.

Integrated Network Communications Module

XPort is powered by our DSTni™ network processor SoC, which includes a 10/100 MAC/PHY and 256 KB of SRAM. It features a built-in web server for communications with a device via a standard Internet browser. Web capability can be used for remote configuration, real-time monitoring or troubleshooting. XPort has 512 KB of on-module Flash for web pages and software upgrades.

It acts as a dedicated co-processor that optimizes network activities permitting the host microprocessor to function at maximum efficiency.

Building Intelligent Devices

With XPort you can embed intelligence into any electronic product for applications such as:

- Remote diagnostics and upgrades.
- Asset tracking and replenishment.
- Automation and control.
- Power management.
- Remote collaboration.
- Personalized content delivery.

Robust, Feature-Rich Software Suite

Eliminating the need to negotiate the intricacies of Transmission Control Protocol (TCP) or Internet Protocol (IP), XPort incorporates:

- Robust Real Time Operating System (RTOS).
- Full-featured network protocol stack.
- Proven, ready-to-use serial-to-wireless application.
- Built-in web server for device communication and configuration via a standard browser.

Features

Serial Interface
- **Interface:** CMOS (Asynchronous, 5V tolerant)
- **Data Rates:** 300 bps to 921,600 bps
- **Characters:** 7 or 8 data bits
- **Parity:** odd, even, none
- **Stop Bits:** 1 or 2
- **Control Signals:** DTR/DCD, CTS, RTS
- **Flow Control:** XON/XOFF, RTS/CTS
- **Programmable I/O:** 3 PIO pins (software selectable)

Network Interface
- **Interface:** Ethernet 10Base-T or 100Base-TX (Auto-Sensing)
- **Connector:** RJ45
- **Protocols:** TCP/IP, UDP/IP, ARP, ICMP, SNMP, TFTP, Telnet, DHCP, BOOTP, HTTP and AutoIP

LED Indicators
- 10Base-T connection
- 100Base-TX connection
- Link & activity indicator - Full/half duplex

Management
- SNMP, Telnet, serial, internal Web server, and Microsoft Windows®-based utility for configuration

Security
- Password protection
- Optional 256-bit AES Rijndael encryption

Internal Web Server
- **Storage capacity:** 384 KB for web pages

Architecture
- **CPU:** Based on the DSTni-EX enhanced 16-bit, 48MHz or 88MHz x86 architecture
- **Memory:** 256 KB SRAM and 512 KB Flash
- **Firmware:** upgradeable via TFTP and serially

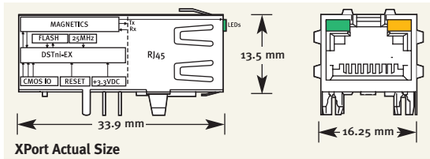
Power
- **Input voltage:** 3.3 VDC

Environmental
- **Extended Temp:** -40° to 85°C (-40° to 185°F)
- **Commercial Temp:** 0° to 70°C (32° to 158°F)
- **Storage:** -40° to 85°C (-40° to 185°F)

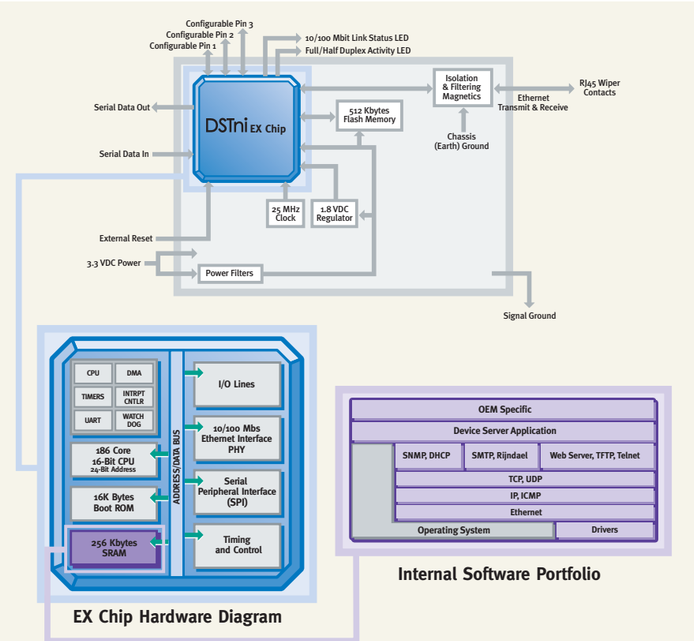
Software
- MS Windows-based DeviceInstaller software and MS Windows-based Com Port Redirector

Packaging
- **Dimensions:** 33.9 x 16.25 x 13.5 mm (1.33 x .64 x .53 in)
- **Weight:** 9.6 g (0.34 oz)

Warranty
- 2-year limited warranty



XPort Actual Size



EX Chip Hardware Diagram

Internal Software Portfolio

Ordering Information

Model	Part Number	Description
XPort XE *Min. Quantity: 50 Units*	XP1001000-03R	XPort RoHS Extended Temperature
	XP1001001-03R	XPort RoHS Commercial Temperature
	XP1001000M-03R	XPort XE RoHS Extended Temperature, with MODBUS
XPort SE *Min. Quantity: 50 Units*	XP1002000-03R	XPort RoHS Extended Temperature, with Encryption
	XP1002001-03R	XPort RoHS Commercial Temperature, with Encryption
XPort SE SMPL	XP100200S-03R	XPort RoHS Extended Temperature, with Encryption - Sample
XPort 485 *Min. Quantity: 50 Units*	XP1004000-03R	XPort RS-485 RoHS Extended Temperature, with Encryption
XPort 485 SMPL	XP100400S-03R	XPort RS-485 RoHS Extended Temperature, with Encryption - Sample
XPort Evaluation Kit	XP100200K-03	XPort Evaluation Kit, with Encryption

XPort Evaluation Kit

The WiPort Evaluation Kit includes everything you need to integrate the WiPort into your next product design, including:

- An XPort Evaluation Board and reference design including CAD PCB files and complete BOM
  - Universal AC power adapter
  - Network (CAT5) and serial cable
  - Connector adapter
  - Data sheet
  - Lantronix utilities CD containing new Com Port Redirector, DeviceInstaller
  - Sample code and application notes
  - Complete user manual

WiPort™ NR Embedded Ethernet Device Server

- Same form factor and pinout as our 802.11 b/g wireless WiPort offering ability to implement wired or wireless solution with the same board design
- Build Ethernet or IP networking into your products – quickly and easily
- Proven operating system, embedded web server complete network protocol stack
- 256-bit AES encryption for secure communications
- EMC/EMI-compliant; RoHS-compliant

RoHS WEEE COMPLIANT

Seamless Migration Path between Ethernet and 802.11

WiPort NR: Serial-to-Ethernet Connectivity Module

Pin Compatible with the Lantronix WiPort Serial-to-802.11 Wireless Module

The matchbook-sized WiPort NR is the newest member of our pin compatible module solutions family which also includes the popular WiPort. Designers now have the flexibility of enabling **wired and wireless layout compatibility on a single PCB design. With this product, Lantronix offers manufacturers a seamless transition path between Ethernet and 802.11 wireless connectivity – without the need for any board re-design.**

Lantronix has long recognized that engineers need a simple, cost-effective and reliable way to seamlessly embed network connectivity into their products. Networking a product can be a complex task adding months or even years to the development cycle. Lantronix embedded modules enable OEMs to keep pace with the expanding complexities of networking technology by easily adding connectivity at a fraction of the time of an in-house solution. Rather than devoting resources to develop in-house networking expertise, engineers are free to concentrate their efforts on their core competency to develop higher quality products and simply drop in the Lantronix networking module.

The new WiPort NR network processor module enables manufacturers to create a board design for Ethernet networking that can be migrated to 802.11 wireless without having to change the design. Designed for the same form factor and pinout as the company's popular 802.11 wireless module, WiPort NR can be easily replaced with the WiPort wireless module.

WiPort NR features Include:

- Two serial ports.
- 10Base-T/100Base-TX Ethernet connectivity (using external RJ45 jack).
- 2MB of Flash memory for OEM web pages.
- 11 GPIOs.
- Available CAN, SPI and I2C interfaces
- PoE-capable with external circuitry.
- Programmable e-mail alerts.
- 256-bit AES Rijndael encryption for secure communications.
- Extensive networking protocol including full TCP/IP stack.

Robust, Feature-Rich Software Suite

Eliminating the need to negotiate the intricacies of Transmission Control Protocol (TCP) or Internet Protocol (IP), WiPort NR incorporates a:

- Robust Real Time Operating System (RTOS).
- Full featured network protocol stack.
- Proven, ready-to-use serial-to-ethernet/TCP-IP application.
- Built-in CGI web server for device communication and configuration via a standard browser.

Features

Serial Interface
- **Interface:** CMOS (Asynchronous, 5V tolerant)
- **Data Rates:** 300 bps to 921,600 bps
- **Characters:** 7 or 8 data bits
- **Parity:** odd, even, none
- **Stop Bits:** 1 or 2
- **Control Signals:** DTR/DCD, CTS,RTS
- **Flow Control:** Hardware, software
- **Programmable I/O:** 11 GPIO pins (software selectable)

Network Interface
- **Interface:** Ethernet 10Base-T or 100Base-TX (Using external RJ45 Jack)
- **Protocols:** TCP/IP, UDP/IP, ARP, ICMP, SNMP, TFTP, Telnet, DHCP, BOOTP, HTTP and AutoIP

Management
- Internal web server
- SNMP (read only)
- Serial login
- Telnet login
- DeviceInstaller software
- Setup records

Encryption
- 256-bit AES Rijndael encryption

Internal Web Server
- Serves web pages
- **Storage capacity:** 1.2 MB

Architecture
- **CPU:** DSTni-EX enhanced 16-bit x86 architecture
- **Memory:** 256 KB SRAM and 2048 KB Flash
- **Firmware:** upgradeable via TFTP and serially

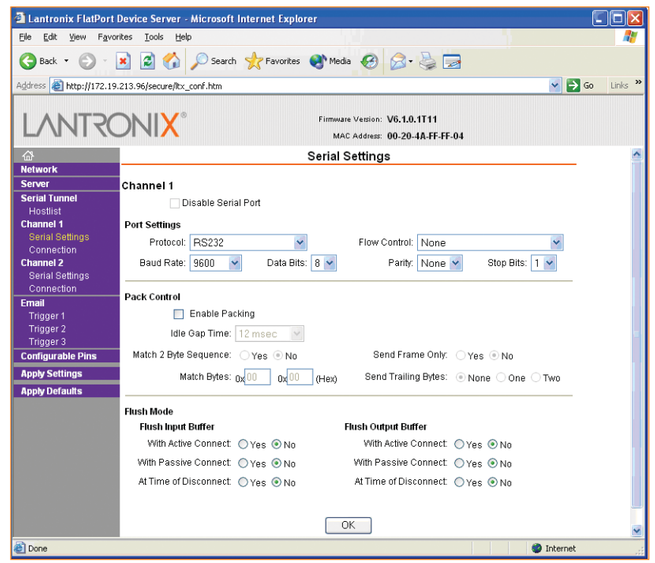
Power
- **Input voltage:** 3.3 VDC, less than 1 watt

Environmental
- **Operating Temp:** -40° to 85°C (-40° to 185°F)
- **Storage:** -40° to 85°C (-40° to 185°F)

Software
- Windows® 98/NT/2000/XP based DeviceInstaller configuration software and Com Port Redirector

Packaging
- **Dimensions:** 33.9 x 32.5 x 10.5 mm (1.335 x 1.28 x .415 in)
- **Weight:** 22g
- **Material:** Metal shell

Warranty
- 2-year limited warranty



The included DeviceInstaller software makes configuring WiPort quick and easy!

Ordering Information

Model	Part Number	Description
WiPort NR	WP5001000-01	WiPort NR Extended Temp. AES Option Bulk Pack Minimum order: 25 units
WiPort NR SMPL	WP500100S-01	WiPort NR Sample with AES Option ✓ 1 WiPort NR enclosed ✓ Free 30-day Secure Com Port Redirector™ evaluation license Order quantities of up to 10
WiPort Evaluation Kit	WP200200KG-02	WiPort B/G Evaluation Kit ✓ 1 WiPort B/G enclosed ✓ Free 30-day Secure Com Port Redirector™ evaluation license ***NOTE:*** This evaluation kit supports both wireless and wired networking capability on one board

WiPort Evaluation Kit

The WiPort Evaluation Kit includes everything you need to integrate the WiPort into your next product design, including:

- WiPort evaluation board
- WiPort device server
- RS-232 cable, DB9F, null modem
- Cat5e UTP RJ45M/M Ethernet cable
- CD with software utilities and PDF documentation
- 3.3V power supply
- Antenna

XPort AR™ Embedded Processor Module

- A fully programmable device computing platform based on corporate IT standards – Cisco®-like CLI, XML, RSS
- Web-enable up to three electronic devices, quickly and easily
- Provide robust "data center grade" security, including SSL and SSH, for networked devices
- Offer true IEEE 802.3af compliant pass-through Power over Ethernet (PoE)

RoHS WEEE COMPLIANT

The Flexible, Programmable Device Computing Platform for Building Intelligent, Highly Secure and Network-ready Devices

The size of a few sugar cubes, XPort® Architect™(AR) is the first device server solution that goes beyond simple network connectivity to deliver an enterprise-grade, programmable device computing and networking platform.

This Embedded Processor Module builds on our proven XPort serial-to-Ethernet/IP technology that enables device manufacturers to add Ethernet or IP connectivity as a standard feature to their products.

XPort AR includes all the essential device computing and networking features built into a single RJ45 package – including a 120Mhz DSTni™ processor, 10/100 Base-T/TX Ethernet connection, an embedded web server and a full network operating system, including TCP/IP protocol stack.

Featuring **Evolution OS™**, our powerful new real-time embedded Networking Operating System, XPort AR now offers the ability to deliver an unprecedented level of intelligence to run a networked device. And it features an extensible, open standards-based software platform for managing the device and delivering information over the enterprise network with "data-center" grade security – including SSH and SSL support. The XPort AR also delivers IEEE 802.3af compliant pass-through Power over Ethernet (PoE).

A New Era of Machine Intelligence

Enabling Scalable, Intelligent and Autonomous Devices

As more devices are added to the network, it is increasingly necessary that they are equipped with a certain level of intelligence so they can operate more autonomously. It is not cost-effective or practical to have humans monitoring all of the "edge" equipment on industrial and enterprise networks.

Additionally, as more equipment is networked, the need to access, collect and process the data from that equipment throughout the corporation increases in order to maximize the value of the network. To make this "edge to enterprise" network a reality, industrial equipment needs to operate with the same standards as traditional networking equipment found in the IT data center.

XPort AR with Evolution OS embedded processor module offers standards-based device computing and networking capability. It makes the M2M network scalable by adding an unprecedented level of device intelligence and policy making at the network edge. XPort AR is essentially an "IP computer" built into the device which provides the ability to gather, process and communicate information and then take appropriate pre-programmed actions. More than just a networking co-processor, it offers:

- A powerful 120 MHz processor.
- Up to three serial ports.
- 13 configurable GPIO pins.
- Flash file system with 4 MB of available memory.
- 230 Kbps serial data rate.
- 1.25 MB of SRAM.

Features

Architecture
- **CPU:** Based on the DSTni-EX enhanced 16-bit, 120MHz x86 Architecture
- **Memory:** 1.25 MB RAM and 4 MB Flash
- **Firmware:** upgradeable via FTP, TFTP, Serial Ports, Internal Web Server
- **Diagnostics:** Built in diagnostics and comprehensive statistics

Network Interface
- **Interface:** Ethernet 10Base-T or 100Base-TX (Auto-Sensing)
- **Connector:** RJ45
- **Layer 3 Protocols:** TCP, UDP, IP, ARP, ICMP, SSH, SSL, XML, HTTP, PPP, PAP, CHAP, DNS, SMTP, RSS, DHCP, BOOTP, AutoIP, SNMP, FTP, TFTP, Telnet, CGI

Serial Interface - up to three
- **Interface:** CMOS (Asynchronous, 5V tolerant)
- **Data Rates:** 300 bps to 230,400 bps (selectable by 1 bps increments)
- **Characters:** 7 or 8 data bits
- **Parity:** Odd, even, none
- **Stop Bits:** 1 or 2
- **Control Signals:** RTS, CTS, DSR, any PIO
- **Flow Control:** XON/XOFF, RTS/CTS, User-Selectable Characters

Indicators (LED)
- 10 or 100 Base-T, Full/Half-Duplex Link & Activity Indicator

Operating System
- RTOS Kernel with preemptive scheduler, multithreading, memory management semaphores and Flash file system

Management
- Cisco-CLI, Internal Web Server, XML, Serial, Telnet, SSH, SSL, RSS, SNMP
- Microsoft Windows®-based utility for configuration

Security
- SSH Client & Server, SSL, 128/256/512/1024-bit AES (Rijndael), 3DES and RC4 Encryption, Public/Private-keys, and Password Protection
- SHA-1, MD5 Hashing Algorithms
- Base-64 & Digest Authentication
- User Access Lists
- Hardened OS and Protocol Stacks

Internal Web Server
- Fully Brandable
- 1.25 MB internal directory-/file-based file system
- CGI/CSS based
- SSL supported

Power
- **Input Voltage:** 3.3 VDC

Environmental
- **Extended Temp:** -40° to 85°C (-40° to 185°F)
- **Storage:** -40° to 85°C (-40° to 185°F)

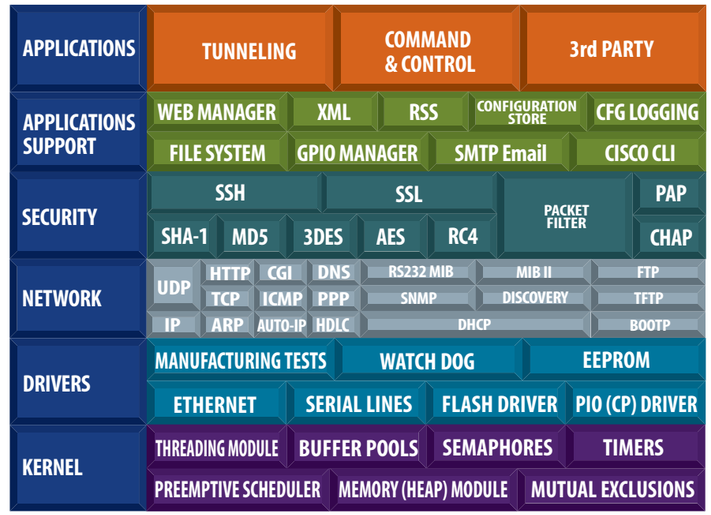
Software
- Evolution Network Operating System
- MS Windows-based DeviceInstaller™ and MS Windows-based Com Port Redirector

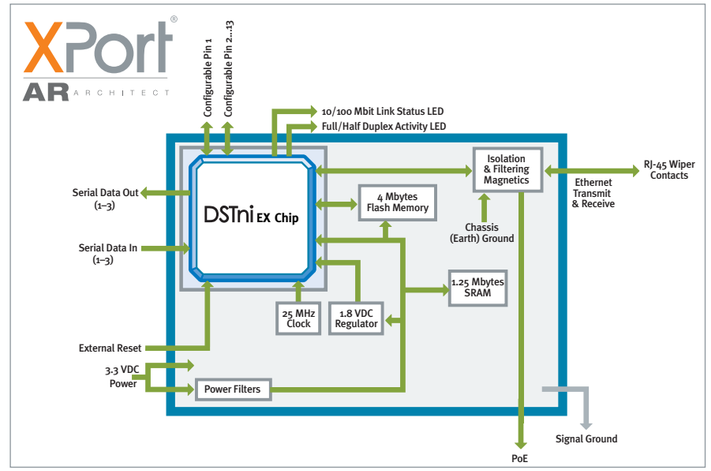
Packaging
- **Dimensions:** 45.7 x 16.51 x 17.8 mm (1.80 x .65 x .70 in)
- **Weight:** 20 g (0.7 oz)

Warranty
- 2-year limited warranty

LANTRONIX®
EVOLUTION OS™

Evolution Architecture





Ordering Information

Part Number	Description
XP3002000-01R	XPort AR RoHS, Bulk, Extended Temperature -40° to 85°C
XP300200S-01R	XPort AR RoHS, Sample, Extended Temperature -40° to 85°C
XP300200K-01	XPort AR Evaluation Kit
EVSDK-01	Evolution Software Development Kit for XPort AR

UDS1100-B Device Server

- Quick way to embed network connectivity to access, monitor and control equipment over Ethernet
- RS-232, RS422 or RS-485 serial support
- RJ45 10Base-T/100Base-TX Ethernet Interface
- Configurable via internal web server, Telnet on serial
- 2 MB Flash ROM
- Environmentally-friendly RoHS and WEEE compliant
- Compact design allows for easy integration

RoHS WEEE COMPLIANT

Quickly Network Enable Equipment Allowing Remote Monitoring and Management From Anywhere on the Net

Lantronix UDS1100-B device server, can quickly and easily network-enable electronic equipment with a serial interface so it can be remotely accessed and controlled over the Net. This flexible product is designed to be integrated with the circuit board of devices like factory machinery, security systems, heating and ventilation systems, lighting control systems and point-of-sale devices.

Building networking capability into a product can be a complex task. The UDS1100-B offers a flexible and easy-to-implement networking solution which enables OEMs to concentrate on their core competency, reduce time-to-market and quickly increase product value.

Features

Serial Interface
Interface: Software-selectable RS232, RS422 or RS485 (2 and 4 wire support)
Connectors: 1 DB25F DCE serial port
Data Rates: Software-selectable baud rate from 300 to 230 KBaud
Characters: 7 or 8 data bits
Parity: odd, even, none
Stop Bits: 1 or 2
Control Signals: CTS/RTS (Hardware)
Flow Control: XON/XOFF (Software)

Network Interface
Interface: 10Base-T/100Base-TX Ethernet port
Software selectable Ethernet speed 10/100/Auto
Software selectable Half/Full/Auto duplex
Connector: RJ45
Standards: ARP, UDP, TCP, ICMP, Telnet, TFTP, AutoIP, DHCP, HTTP, SNMP TCP, UDP, and Telnet, TFTP

LED Indicators
Power, 10/100 Link/Activity (green), **100/100 Link/Activity**(green), **Diagnostics** (red), **Status** (green)

Processor
CPU: Lantronix DSTNI-EX 48 MHz clock
Memory: 256 KB zero wait state SRAM, 2 MB Flash

Management
Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, HTTP

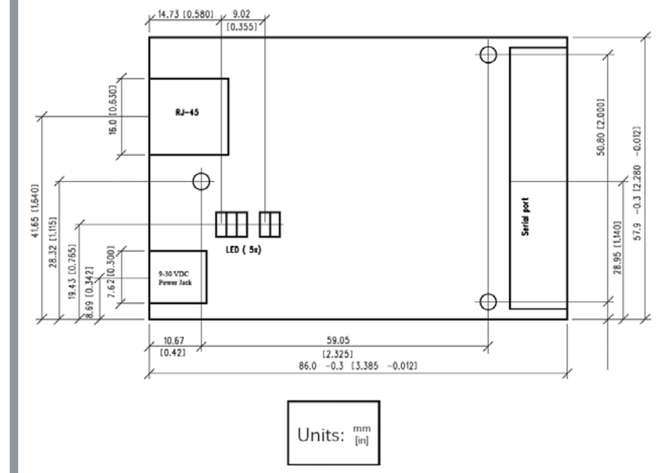
Power
9-30 VDC or 9-24 VAC on barrel connector (1.5 Watts maximum consumption)
9-30 VDC on DB25F serial interface
3.3 VDC on DB25F serial interface

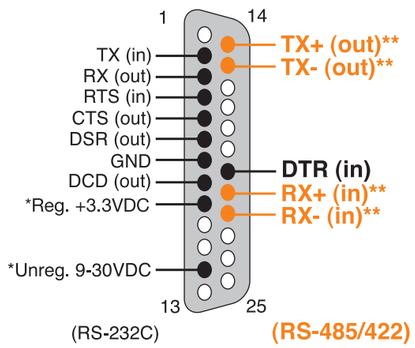
Environmental
Operating: -40° to 70° C (41° to 158° F)
Storage: -40° to 85° C (-40 to 185° F)

Isolation
Designed with protection against transients and ESD for use under harsh environments.
Serial Port: 15 KV ESD protection on RS232 and RS422/485 transceivers
Power Input: Up to non-repeated 600 W 10/100 usec pulse protection against transient over voltages
Ethernet Port: 1500 VAC isolation shielded with shield connected to chassis ground for signal integrity and ESD protection

Packaging (LxWxH)
Dimensions: 8.4 x 5.8 x 1.4 cm (3.3 x 2.3 x .55 in)
Weight: 0.12 kg (0.26 lb)

Warranty
2-year limited warranty





*The Device Server can alternately be powered up via the serial port using one of these pins.

**The minus sign (-) is sometimes represented as A (e.g., TXA). The plus sign (+) is sometimes represented as B (e.g., TXB).

Ordering Information

Part Number	Description
UD110000B-01	UDS1100 device server board only
Accessories	
500-163	DB25M to DB9F serial cable
500-171-R	DB25M to RS485 and power input screw terminal adapter

EDS4100 Device Server

- Put just about any piece of equipment with a serial port on the enterprise network with robust "data center grade" security, including SSH and SSL
- A fully programmable device computing platform based on corporate IT standards – Cisco®-like CLI, XML, RSS
- True IEEE 802.3af compliant Power over Ethernet (PoE)
- RoHS-compliant
- Powerful web manager for easy device configuration

RoHS WEEE COMPLIANT

Remotely Monitor, Manage and Share Devices Over a Network or the Internet

The EDS4100 is the first external device server to deliver an enterprise-grade, programmable device computing and networking platform for integrating 'edge' equipment into the enterprise network.

Featuring Lantronix Evolution OS™, our powerful real-time Networking Operating System, the EDS4100 delivers an unprecedented level of intelligence and security to networked equipment. With this powerful product, just about any piece of equipment with a serial port can become a fully secure member of the corporate network so it can be accessed and managed remotely from virtually anywhere.

Bullet-proof Security

Evolution OS provides 'data center grade' level of protection so that each device on the M2M (machine-to-machine) network carries the same level of security as IT equipment in the corporate data center.

The EDS4100 has robust defenses to hostile Internet attacks such as denial of service (DoS) and port mapping that can be used to take down the network. The hardened OS and mature protocol stack prevents it from being used to bring down other devices on the network. And with built-in SSH and SSL, it includes robust key management algorithms that:

- Verify the data received came from the proper source
- Validate that the data transferred from the source over the network is unchanged when it arrives at its destination
- Provide ability to run popular M2M protocols over a secure SSH connection

With SSH and SSL, the EDS4100 supports a variety of popular cipher technologies including 128/256/512/1024-bit AES (Rijndael), 3DES and RC4 Encryption Public/Private-keys and hashing algorithms such as SHA-1 and MD5. HTTP authentication uses Base-64, Digest Authentication and SSL.

Standards-Based Communications

Cisco-like CLI – The EDS4100 uses a Cisco-like command line interface (CLI) with syntax that is very similar to that used by data center equipment such as routers and hubs. This industry-standard tool simplifies configuration and control, making it easier to integrate edge devices into the enterprise network.

XML-based Architecture – XML is a standard tool for web services, data transfer and rich content management that encapsulates data into a text-based format. XML-based configuration and setup records in EDS4100 make the device configuration transparent and easily modified with a standard text or XML editor.

PoE (Power over Ethernet)

EDS4100 features true IEEE 802.3af-compliant Power over Ethernet (PoE) using both Ethernet pairs. Eliminating the need for an external power supply and associated labor costs, EDS4100 is ideally suited to add immediate networking functionality for remote equipment located virtually anywhere.

Powerful and Customizable

Eight MB of Flash memory provides maintenance-free nonvolatile storage of web pages, and enables future system software upgrades. Featuring a 32-bit XScale processor and 32MB of RAM, the EDS4100 is highly customizable with the Evolution OS Software Developers' Kit (SDK). A free compiler is available.

The EDS4100 also features a mini PCI for future expansion, including additional possibilities such as modems, 802.11 wireless and FIPS 140-2 level 2 encryption.

Features

Serial Interface

Interface: Software selectable RS-232/422/485 customizable baud rate support for non-standard serial speeds
Connectors: Four DB9M serial ports; two RS-232, two RS-232/422/485
Data Rates: Software selectable standard baud rates from 300 to 230 KBaud
Characters: 7 or 8 data bits
Parity: Odd, even, none
Stop Bits: 1 or 2
Control Signals: CTS, RTS, DTR, DCD
Flow Control: XON/XOFF (software), CTS/RTS (hardware), None

Network Interface

Software selectable Ethernet speed 10/100/Auto
Software selectable Half/Full/Auto duplex
Connector: RJ45
Standards: ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP, DHCP, BOOTP, TFTP, Auto IP, SMTP, FTP, DNS, Traceroute and HTTP

LED Indicators

10Base-T and 100Base-TX Link
Ethernet Activity
Serial Transmit Data
Serial Receive Data
Power
Diagnostics

Processor

CPU: Intel XScale IXP420 Network Processor running at 266MHz
32k Instruction Cache
32k Data Cache
Memory: 32 MB SDRAM
8 MB Flash
2 KB EEPROM

Management

Internal web server, SNMP v2 (MIBII, RS232MIB), Serial login, Telnet login, XML
Firmware: Upgradable via the Web Manager, TFTP or FTP
Internal Web Server: Static and dynamic CGI-based pages and applets
Storage capacity: 6 MB using industry-standard file system

Power

9-30VDC - Barrel connector
42-56VDC - Screw Terminal
PoE-compliant power source - **802.3af** (when populated)

Environmental

Operating: 0° to 55° C (32° to 131° F)
Storage: -40° to 70° C (-40 to 158° F)
Relative Humidity: 10 to 90%, non-condensing

Compliance

Ethernet: Version 2.0/IEEE 802.3 (electrical)
Ethernet II frame type
IEEE 802.3af (when PoE is populated)

Safety Standards

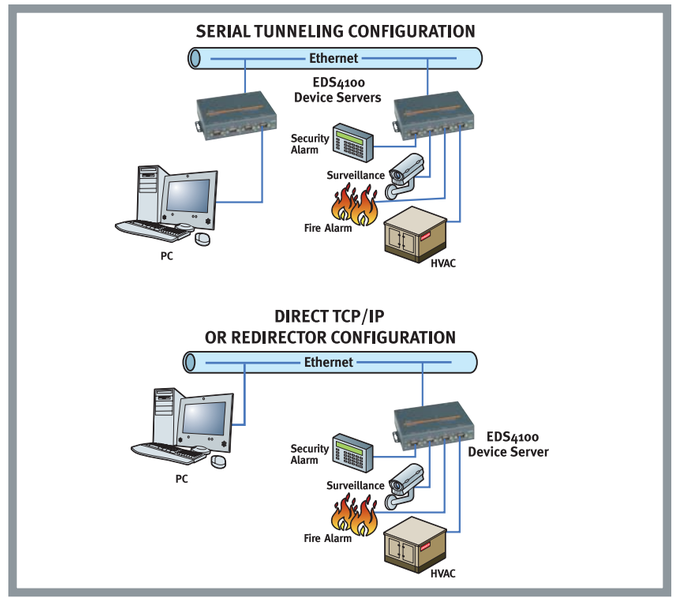
UL 60950-1, CSA-22.2 No. 60950-1-03, EN60950-1, CB Report - IEC 60950-1

Security

SSL v3, SSH v2
MD5, SHA-1
Rijndael/AES 128-bit encryption
3DES encryption
ARC4 128-bit encryption
Password protection
IP address filtering
Hardened OS and stack

Agency Approvals

UL/CUL, FCC, CE, TUV, C-Tick, GS, CB scheme, VCCI



Emissions

FCC Part 15 Subpart B Class A	Radiated Emissions 30MHz – 1000MHz
ICES-003 Issue 4 February 2004 Class A	Radiated Emissions 30MHz – 1000MHz
AS/NZS CISPR 22: 2004 Class A	Radiated Emissions 30MHz – 1000MHz
EN55022: 1998 + A1: 2000 + A2: 2003 Class A	Radiated Emissions 30MHz – 1000MHz
VCCI V-3/2005.04 Class A	Radiated Emissions 30MHz – 1000MHz
EN61000-3-2: 2000 Class A	Harmonic Current Emissions
EN61000-3-3: 1995 + A1: 2001	Fluctuations and Flicker

Immunity

EN55024: 1998	+A1: 2001 +A2: 2003
IEC_61000-4-2: 1995	ESD 8KV Air Discharge (Direct), 4KV Contact Discharge (Direct/Indirect)
IEC_61000-4-3: 1995	Radiated Immunity 3.0V/m, 1KHz AM Sine Wave at 80%
IEC_61000-4-4: 1995	EFT/Burst 1.0KV Power Lines, 0.5KV I/O Lines
IEC_61000-4-5: 1995	Surge Immunity 1.0KV Common Mode, 1.0 KV Differential Mode
IEC_61000-4-6: 1996	Conducted Immunity 3.0 Vrms, 80% AM Modulated (1KHz)
IEC_61000-4-8: 1993	Magnetic Field Immunity 50Hz 1.0 Arms/m
IEC_61000-4-11: 1994	Voltage Dips and Interrupts (>95%, 0.5 periods), (30%, 25 periods), (>95%, 250 periods)

Isolation

Designed with protection against transients and ESD for use under harsh environments.
Serial Port: 15 KV ESD protection on RS232 and RS422/485 transceivers
Power Input: 2kV common mode and 1kV differential mode power surge protection
Ethernet Port: 1500 VAC isolation shielded

Software

Windows® 98/ME/NT/2000/XP-based DeviceInstaller™ configuration software, Com Port Redirector™ software and related utilities

Packaging

Material: Metal enclosure with removable wall mounts
Dimensions (LxWxH)**: 3.81 x 17.65* x 12.7 cm** (1.5 x 6.95* x 5 in.)* **with mounting brackets = 20.14 cm** (7.93 in)
Weight: .86 Kg (1.9 lb)

Shipping Dimensions (LxWxH)

Dimensions : 242 x 191 x 115 mm (9.5 x7.5 x 4.5 in)
Weight: 1.44 kg (3.19 lbs)

Warranty

2-year limited warranty

Product Label Markings

FCC Part 15 Statement Class A Device, C-Tick, VCCI, CE Marking, UL-CUL Mark, TUV-GS Mark, RoHS

Ordering Information

Part Number	Description
ED41000P0-01	Four Port device server, PoE, no power supply, RoHS
ED41000P2-01	Four Port device server, PoE, with universal power supply and adapters, RoHS

UDS1100 Device Server

- Network virtually any device in minutes
- Access, monitor and control equipment over Ethernet
- Replace dedicated PCs and/or modem lines with fast and reliable Ethernet networking
- Configure quickly and easily via HTTP, DHCP, Telnet, serial or Lantronix DeviceInstaller™ utility
- Supports RS232, RS422 and RS485 communications
- Environmentally-friendly RoHS and WEEE compliant
- Small enough to place almost anywhere

Remotely Monitor, Manage and Share Equipment Over the Net

Device networking is what powers M2M (machine to machine) communication. The UDS family of device servers enables users to connect, manage and control just about any piece of equipment with a serial port from virtually anywhere over Ethernet or the Internet.

With the UDS1100, virtually any piece of equipment can be added to an Ethernet network in a matter of minutes! This single-port device server is a quick, simple and inexpensive way to bring the advantages of remote management to equipment not currently connected to a network.

Features

Serial Interface
- **Interface:** Software-selectable RS232, RS422 or RS485 (2 and 4 wire support)
- **Connectors:** 1 DB25F DCE serial port
- **Data Rates:** Software-selectable baud rate from 300 to 230 KBaud

Serial Line Formats
- **Characters:** 7 or 8 data bits
- **Parity:** odd, even, none
- **Stop Bits:** 1 or 2

Flow Control
- **Control Signals:** CTS/RTS (Hardware)
- **Flow Control:** XON/XOFF (Software)

Network Interface
- **Interface:** 10Base-T/100Base-TX Ethernet port
- **Software selectable Ethernet speed 10/100/Auto**
- **Software selectable Half/Full/Auto duplex**
- **Connector:** RJ45
- **Standards:** ARP, UDP, TCP, ICMP, Telnet, TFTP, AutoIP, DHCP, HTTP, SNMP TCP, UDP, and Telnet, TFTP

LED Indicators
- **Power, 10/100 Link/Activity** (green), **100/100 Link/Activity**(green), **Diagnostics** (red), **Status** (green)

Processor
- **CPU:** Lantronix DSTNI-EX 48 MHz clock
- **Memory:** 256 KB zero wait state SRAM, 2 MB Flash

Management
- Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, HTTP

Power
- **9-30 VDC or 9-24 VAC on barrel connector** (1.5 Watts maximum consumption)
- **9-30 VDC on DB25F serial interface**

Environmental
- **Operating:** 5° to 50° C (41° to 122° F)
- **Storage:** -40° to 66° C (-40 to 151° F)

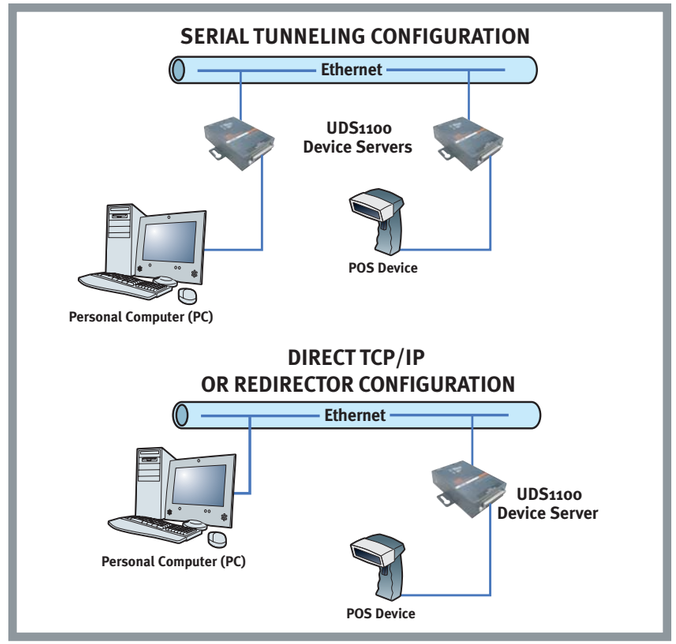
Agency Approvals
- UL, CSA, FCC, CE, TUV, CTick, VCCI

Software
- Windows® 98/ME/NT/2000/XP-based DeviceInstaller configuration software, Com Port Redirector™ software and related utilities

Packaging
- **Material:** Metal enclosure with integrated wall mounts; optional 35 mm DIN-rail mount available
- **Dimensions (LxWxH):** 9.0 x 6.4 x 2.3 cm (3.5 x 2.5 x 0.9 in)
- **Weight:** 0.20 kg (0.45 lb)
- **IP Rating:** 30

Shipping Dimensions (LxWxH)
- **Dimensions:** 242 x 191 x 115 mm (9.5 x 7.5 x 4.5 in)
- **Weight:** 1.5 kg (3.0 lbs)

Warranty
- 2-year limited warranty



Emissions

FCC Part 15 Subpart B Class A	Radiated Emissions 30MHz – 1000MHz
ICES-003 Issue 4 February 2004 Class A	Radiated Emissions 30MHz – 1000MHz
AS/NZS CISPR 22: 2004 Class A	Radiated Emissions 30MHz – 1000MHz
EN55022: 1998 + A1: 2000 + A2: 2003 Class A	Radiated Emissions 30MHz – 1000MHz
VCCI V-3/2005.04 Class A	Radiated Emissions 30MHz – 1000MHz
EN61000-3-2: 2000 Class A	Harmonic Current Emissions
EN61000-3-3: 1995 + A1: 2001	Fluctuations and Flicker

Immunity

EN55024: 1998	+A1: 2001 +A2: 2003
IEC_61000-4-2: 1995	ESD 8KV Air Discharge (Direct), 4KV Contact Discharge (Direct/Indirect)
IEC_61000-4-3: 1995	Radiated Immunity 3.0V/m, 1KHz AM Sine Wave at 80%
IEC_61000-4-4: 1995	EFT/Burst 1.0KV Power Lines, 0.5KV I/O Lines
IEC_61000-4-5: 1995	Surge Immunity 1.0KV Common Mode, 1.0 KV Differential Mode
IEC_61000-4-6: 1996	Conducted Immunity 3.0 Vrms, 80% AM Modulated (1KHz)
IEC_61000-4-8: 1993	Magnetic Field Immunity 50Hz 1.0 Arms/m
IEC_61000-4-11: 1994	Voltage Dips and Interrupts (>95%, 0.5 periods), (30%, 25 periods), (>95%, 250 periods)

Isolation
- **Designed with protection against transients and ESD for use under harsh environments.**
- **Serial Port:** 15 KV ESD protection on RS232 and RS422/485 transceivers
- **Power Input:** Up to non-repeated 600 W 10/100 usec pulse protection against transient over voltages
- **Ethernet Port:** 1500 VAC isolation shielded with shield connected to chassis ground for signal integrity and ESD protection

Ordering Information

Part Number	Description
UD1100001-01	UDS1100 device server, US domestic power 120 VAC power supply
UD1100002-01	UDS1100 device server, 100-240 VAC International power supply with regional adapters
UD110000B-01	UDS1100 device server board only

Accessories

500-163	DB25M to DB9F serial cable
ACDIN1001-01	Optional DIN-rail mount
500-171	DB25M to RS485 and power input screw terminal adapter

Secure Device Servers

- Securely network-enable serial devices with 128-256 bit AES-certified encryption
- Transparent communications - no need to develop special software
- RS-232 DCE serial port pinned the same as modem for easy connection
- 10/100 Ethernet Interface
- Supported by Lantronix's Secure Com Port Redirector™ software

The Most Secure Way to Connect, Monitor, Manage and Control Devices Over a Network or the Internet

The SecureBox® SDS1101 offers the most secure way to add formerly isolated electronic equipment to the Ethernet network. With this capability, virtually any device with a serial port can be remotely accessed and controlled securely over the network or the Internet. This adds an unprecedented level of flexibility and efficiency to your business, and breathes new life into your existing equipment.

With the proliferation of information in today's electronic world, businesses are more concerned than ever about protecting data from unwanted intrusion as it is transferred over a network or the Internet. The SDS1101 features the most robust security available on the market with a National Institute of Standards and Technology (NIST) certified implementation of 128-256 bit AES (Advanced Encryption Standards; Rijndael) as specified by FIPS-197 (Federal Information Processing Standards).

SDS1101 Features

Serial Interface
Interface: Software-selectable RS232, RS422 or RS485 (2 and 4 wire support)
Connectors: 1 DB25F DCE serial port
Data Rates: Software-selectable baud rate from 300 to 230 KBaud

Serial Line Formats
Characters: 7 or 8 data bits
Parity: odd, even, none
Stop Bits: 1 or 2

Flow Control
Control Signals: CTS/RTS (Hardware)
Flow Control: XON/XOFF (Software)

Network Interface
Interface: 10Base-T/100Base-TX Ethernet port
Software selectable Ethernet speed 10/100/Auto
Software selectable Half/Full/Auto duplex
Connector: RJ45
Standards: ARP, UDP, TCP, ICMP, Telnet, TFTP, AutoIP, DHCP, HTTP, SNMP TCP, UDP, and Telnet, TFTP

LED Indicators
Power, 10/100 Link/Activity (green), **100/100 Link/Activity**(green), **Diagnostics** (red), **Status** (green)

Processor
CPU: Lantronix DSTNI-EX 48 MHz clock
Memory: 256 KB zero wait state SRAM, 2 MB Flash

Management
Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, HTTP

Power
9-30 VDC or 9-24 VAC on barrel connector (1.5 Watts maximum consumption)
9-30 VDC on DB25F serial interface

Environmental
Operating: 5° to 50° C (41° to 122° F)
Storage: -40° to 66° C (-40 to 151° F)

Agency Approvals
UL, CSA, FCC, CE, TUV, CTick, VCCI, NIST, AES, FIPS-197, CERT# 120

Packaging
Material: Metal enclosure with integrated wall mounts; optional 35 mm DIN-rail mount available
Dimensions (LxWxH): 9.0 x 6.4 x 2.3 cm (3.5 x 2.5 x 0.9 in)
Weight: 0.20 kg (0.45 lb)
IP Rating: 30

Shipping Dimensions (LxWxH)
Dimensions: 242 x 191 x 115 mm (9.5 x 7.5 x 4.5 in)
Weight: 1.5 kg (3.0 lbs)

Warranty
2-year limited warranty

Software
Windows® 98/ME/NT/2000/XP-based DeviceInstaller configuration software, Com Port Redirector™ software and related utilities

SDS1101 Features

Emissions

FCC Part 15 Subpart B Class A	Radiated Emissions 30MHz – 1000MHz
ICES-003 Issue 4 February 2004 Class A	Radiated Emissions 30MHz – 1000MHz
AS/NZS CISPR 22: 2004 Class A	Radiated Emissions 30MHz – 1000MHz
EN55022: 1998 + A1: 2000 + A2: 2003 Class A	Radiated Emissions 30MHz – 1000MHz
VCCI V-3/2005.04 Class A	Radiated Emissions 30MHz – 1000MHz
EN61000-3-2: 2000 Class A	Harmonic Current Emissions
EN61000-3-3: 1995 + A1: 2001	Fluctuations and Flicker

Immunity

EN55024: 1998	+A1: 2001 +A2: 2003
IEC_61000-4-2: 1995	ESD 8KV Air Discharge (Direct), 4KV Contact Discharge (Direct/Indirect)
IEC_61000-4-3: 1995	Radiated Immunity 3.0V/m, 1KHz AM Sine Wave at 80%
IEC_61000-4-4: 1995	EFT/Burst 1.0KV Power Lines, 0.5KV I/O Lines
IEC_61000-4-5: 1995	Surge Immunity 1.0KV Common Mode, 1.0 KV Differential Mode
IEC_61000-4-6: 1996	Conducted Immunity 3.0 Vrms, 80% AM Modulated (1KHz)
IEC_61000-4-8: 1993	Magnetic Field Immunity 50Hz 1.0 Arms/m
IEC_61000-4-11: 1994	Voltage Dips and Interrupts (>95%, 0.5 periods), (30%, 25 periods), (>95%, 250 periods)

Isolation
Designed with protection against transients and ESD for use under harsh environments.
Serial Port: 15 KV ESD protection on RS232 and RS422/485 transceivers
Power Input: Up to non-repeated 600 W 10/100 usec pulse protection against transient over voltages
Ethernet Port: 1500 VAC isolation shielded with shield connected to chassis ground for signal integrity and ESD protection

Ordering Information

Part Number	Description
SD1101001-11	Single Port Secure device server with AES Encryption, domestic power supply
Accessories	
500-163	DB25M to DB9F serial cable (included)
ACDIN1001-01	Optional DIN-rail mount
500-171-R	DB25M to RS485 and 9-30 VDC power input screw terminal adapter

SDS1100 / SDS2100 Features

Serial Interface
Interface: SDS1100: **RS-232, RS-422, or RS-485** (2/4 wire)
SDS2100: **RS-232**
Connectors: SDS1100: **DB25** (Female, DCE configuration)
SDS2100: **2 DB9** (male, DTE configuration)
Data Rates: 300 to 115,200 bps

Serial Line Formats
Characters: 7 or 8 data bits
Parity: odd, even, none
Stop Bits: 1 or 2

Flow Control
Control Signals: RTS, CTS, DSR, DTR, DCD
Flow Control: XON/XOFF, RTS/CTS

Network Interface
Interface: Ethernet 10Base-T/100Base-TX
Connector: RJ45
Standards: ARP, UDP/IP, TCP/IP, ICMP, SNMP, AutoIP, DHCP, TFTP, Telnet and HTTP

LED Indicators
SDS1100: **10 Link/Activity** (green), **100 Link/Activity** (green), **Collision** (red), **Diagnostics** (red), **Status** (green)
SDS2100: **Power, 10 Link/Activity** (green), **100 Link/Activity** (green), **Diagnostics** (red), **Status channel 1** (green), **Status channel 2** (red)

Processor
CPU: DSTni-LX (enhanced 80186, 48 MHz)
Memory: 256 Kbytes SRAM, 1 Mbyte flash

Management
SDS1100: **Serial login, SNMP, Telnet login, internal web server**
SDS2100: **Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, HTTP**

Power
Input:
SDS1100: **9 to 30 VAC/VDC**
Consumption: 1 W max.
AC adapter included (see ordering information)
Power input on standard power connector or through serial interface
SDS2100: **9 to 30 VAC/VDC**
Consumption: 2 W max.
AC adapter included (see ordering information)

SDS1100

SDS2100

Environmental
Operating: 5° to 50°C (41° to 122°F)
Storage: -40° to 66°C (-40° to 151°F)

Agency Approvals
SDS1100: **FCC-B, C/UL, CSA, CE, TUV**
SDS2100: **FCC-B, C/UL, CSA, CE, TUV, NIST AES FIPS-197 Cert #120**

Software
Included Windows 98/ME/NT/2000/XP-based configuration software, Com Port Redirector™ software, and related utilities. Secure Com Port Redirector is available as an option.

Packaging
Material: Metal case with flange mount
Dimensions: (LxWxH)
SDS1100: **90 x 64 x 23 mm** (3.5 x 2.5 x 0.9 in)
SDS2100: **95 x 72 x 23 mm** (3.7 x 2.8 x 0.9 in)
Weight:
SDS1100: **0.35 kg** (0.8 lbs), SDS2100: **0.4 kg** (0.9 lbs)

Shipping Dimensions (LxWxH)
Dimensions: 242 x 191 x 115 mm (9.5 x 7.5 x 4.5 in)
Weight: 1.5 kg (3.0 lbs)

Warranty
2-year limited warranty

Ordering Information

Part Number	Description
SD2100001-01	115 VAC, 50/60 Hz adapter
SD2100002-01	100-240 VAC, 50/60 Hz Intl. adapter
SD1100001-01	115 VAC, 50/60 Hz adapter
SD1100002-01	100-240 VAC, 50/60 Hz Intl. adapter

Secure device server: 2 DB9 RS-232 DTE serial ports, 10Base-T/100Base-TX Ethernet, diagnostic LEDs, AC power adapter, CD-ROM with configuration tools and documentation, printed Quick Start Guide.

MSS100 device server

- DB25 serial port with full modem controls and speeds up to 230 Kbps
- TCP/IP, UDP, HTTP, FTP, TFTP, SNMP, ICMP
- EZWebCon® and COM Port Redirector™ software included for easy configuration and control
- 10/100Base-T Ethernet

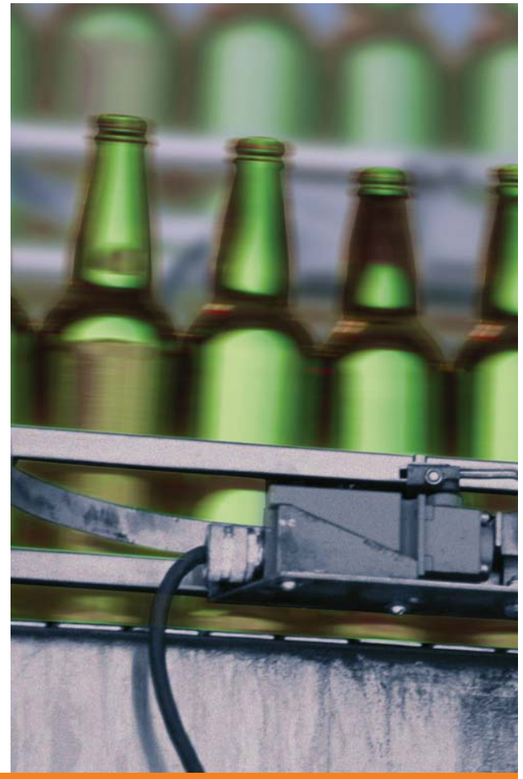
RoHS WEEE COMPLIANT

Remotely Monitor, Manage and Control Equipment Over Ethernet

The MSS100 is a fast, easy way to connect virtually any device with a serial port to a network, so it can be managed remotely. The MSS100 enables you to operate and manage RS-232 serial devices over the LAN, WAN or Internet and replace dedicated PCs and lengthy serial cables with fast and reliable networking technology. This remote access capability increases efficiency, saving you time and money while providing easier management from any browser – anywhere, at any time.

Featuring a 32-bit processor, feature-rich operating system, high-speed serial interface and 10/100 Ethernet port, the MSS100 provides the performance needed for demanding and multi-tasking operations such as:

- Retail Point-of-Sale
- Medical Instrumentation
- Building Automation
- Security Systems
- Manufacturing/Industrial Automation



Features

Serial Interface
Interface: RS-232
Connector: 1 DB25 Male DTE
Data Rates: 300 bps to 230 Kbps

Serial Line Formats
Characters: 7 or 8 bit
Stop Bits: 1 or 2
Parity: odd, even, mark, space, none

Flow Control
XON/XOFF (Software)
RTS/ETS (Hardware)

Network
Standards: TCP/IP, IPX, LAT
Interface: 1 10/100 Ethernet port
Connector: RJ45

Protocols Supported
TCP/IP, UDP, HTTP, FTP, TFTP, SNMP, ICMP

Modem Controls
RTS, CTS, DSR, DTR

Device Support
Supports any RS-232 asynchronous serial port device requiring Ethernet access

Management
HTTP, SNMP, EZWebCon®, Telnet, LAT logins and DHCP

Software
Flash ROM Standard: downloadable from a TCP/IP **host** (TFTP download), **DECNET host** (MOP download), NetWare file server, or EZWebCon®

Diagnostic LEDs
Link
OK
Power
100Base-T
Network Activity

Compatibility
Ethernet: Version 2/IEEE 802.3/IEEE 802.3u

Agency Approvals
FCC (A), C/UL, TUV, CE (B)

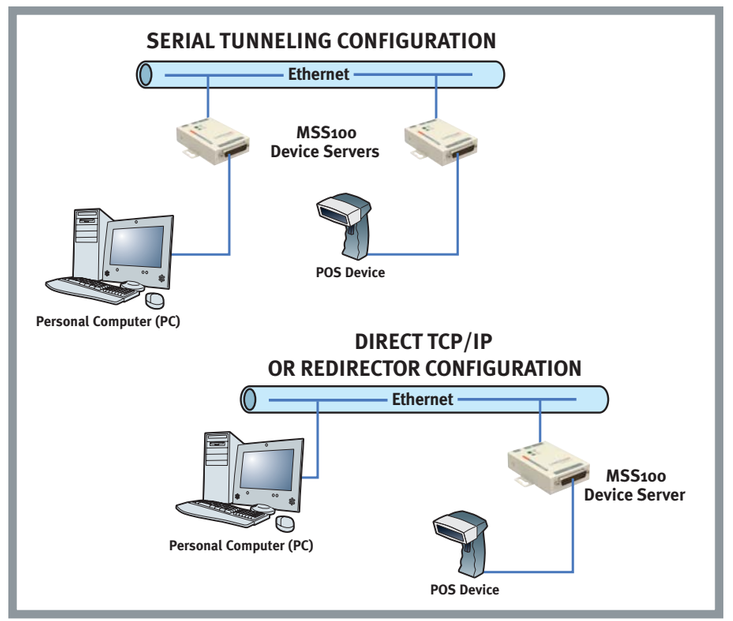
Power Requirements
5 VDC @ 0.8A (external AC adapter included)

Environmental
Operating temperature: 5° to 50°C (41° to 122°F)
Storage temperature: -40° to 66°C (-40° to 151°F)

Physical
Dimensions: 9.0 x 6.4 x 2.3cm (3.5 x 2.5 x 0.9 in)
Weight: .35 kg (.8 lbs)

Shipping Dimensions
Dimensions: 24.2 x 19.1 x 11.5 cm (9.5 x 7.5 x 4.5 in)
Weight: 1.5 kg (3.0 lbs)

Warranty
1-year limited warranty



Example Applications

- Blood analyzers
- LAN security devices
- PBX accounting systems
- Card readers in debit systems
- Remote power management controllers
- Telecommunications equipment
- CNC machines in machine shops
- Electronic signboards
- Temperature monitoring devices
- Chemical & gas chromatography
- Displays in call centers
- Security alarms
- Time & attendance clocks and terminals
- Badge access control
- Customer traffic measurement
- UPS management devices
- High-end fax machines
- Electronic key systems
- Radiation equipment
- Marine equipment aboard ships
- Video cameras for ATM surveillance
- Vending machines
- Data loggers
- Static control boards
- Postal equipment
- Instrumentation
- Oil rig monitors
- Satellite receivers
- Station adapters
- ATM machines on cruise ships
- Warehouse inventory tracking devices
- Unix workstations' console port
- Refrigeration and heating controls
- Barcode scanners
- Heart monitors
- Electronic maps
- Power meter measurement devices
- Oil and gas automation
- Battery monitors
- Robotic controls
- Chemical monitors in pools
- Modems (character-mode)
- Weather stations
- Rocket launch pad telemetry equipment

Ordering Information

Part Number	Description
MSS100-21	10/100 device server, 1 DB25 (RS-423/RS-232) serial port, 1 10/100 RJ45 networking port, diagnostic LEDs, Installation Guide, CD-ROM with EZWebCon software, Com Port Redirector software and reference manual, external 120 VAC wall cube power supply, RoHS compliant
MSS100-22	Same as above with 100-240 VAC international power supply and adapters
MSS100-24	Same as above with 100-240 VAC universal IEC power supply with U.S. power cord

MSS4 Device Server

- Connects multiple devices to a single network
- Cost-efficient flexible solution to networking serial devices
- (4) DB9M, RS-232, RS-422, and RS-485 serial ports
- 10/100Base-T Ethernet interface serial ports
- Dedicated and character-initiated host connections
- Easy management from any browser

Remotely Monitor, Manage, and Share Connected Devices Over a Network or the Internet.

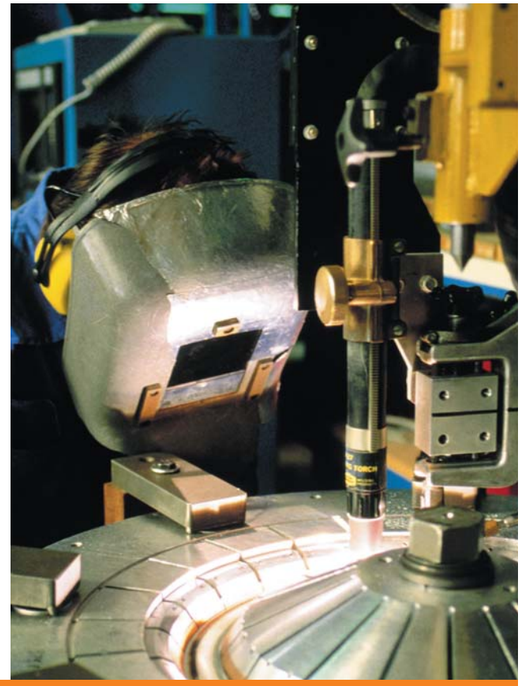
The MSS4 is a flexible, four-port device server that empowers isolated intelligent devices to leverage their serial interfaces and communicate over Ethernet or Internet networks using reliable network protocols.

The four serial ports independently accommodate RS-232, RS-422, or RS-485 devices – making it an ideal solution for a variety of applications and environments. The MSS4 is easy to configure and provides advanced serial data handling features required for sensitive data communication applications.

The MSS4 is a robust, cost-effective, high quality solution for serial to Ethernet connectivity. It employs proven Lantronix technology to network-enable products used in diverse markets such as:

- Retail/Point of Sale
- Medical Instrumentation
- Commercial Buildings
- Security Systems
- Manufacturing/Automation

Virtually any asynchronous serial device can be accessed over a network through the MSS4's 10/100Base-T Ethernet network interface, giving you complete control and monitoring capabilities.



Features

Supported Devices
RS-232/RS-422/RS-485 asynchronous serial devices

Protocols
TCP/IP, ARP, UDP, ICMP, SNMP, DHCP, TFTP, HTTP, FTP

Network Interface
1 10/100 RJ45

Serial Interface
4 DB9M DTE ports

Serial Speeds
300bps to 230Kbps

Flow Control
Software: XON/XOFF
Hardware: CTS/RTS

Modem Controls
RTS, CTS, DSR, DTR

Management
Telnet
Serial Port
DHCP
SNMP
Internal Web Server
EZWebCon® Management Software

Firmware
Flash ROM, downloadable from:
EZWebCon
TCP/IP host (TFTP)

Diagnostic LEDs
Link (10/100)
OK
Serial ports 1 – 4 active

Compatibility
Ethernet version 2.0/IEEE 802.3
Ethernet version 2/IEEE 802.3/IEEE 802.3u

Power
9-30VDC
1.84A max. @ 12VDC with all options
(12VDC universal adapter included)

Environmental
Operating temperature: 5° to 50° C (41° to 122°F)
Storage temperature: -40° to 66° C (-40° to 151°F)

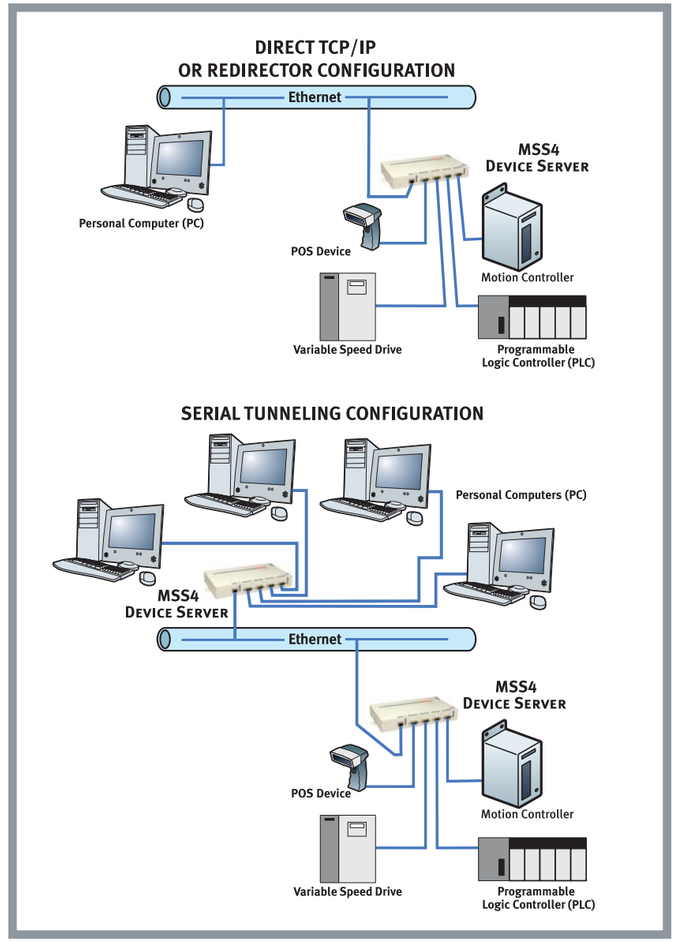
Approvals
FCC (A), C/UL, TUV, CE (A)

Applications
Industrial Automation
Security Systems
Retail Point of Sale
UPS Management
Bar Code Readers
Medical Instruments

Physical
Dimensions: 13.9 x 23.6 x 3.3cm (5.5 x 9.3 x 1.3in)
Weight: 0.51kg (1 lb 2 oz)

Shipping Dimensions (L x W x H)
Dimensions: **20.9 x 27.9 x 13.9cm** (8.25 x 11 x 5.5in)
Weight: 0.59kg (1 lb. 5 oz)

Warranty
1-year limited warranty



Ordering Information

Part Number	Description
MSS4-D-11	10/100 device server, 4 DB9M RS-232/RS-485 serial port, 1 10/100 RJ45 networking port, diagnostic LEDs, external 100-240VAC wall cube power supply